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THE WORLD AND ITS MEANING

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THE WORLD AND ITS MEANING

An Introduction to Philosophy

BY

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TO
MY WIFE

PREFACE

To one unversed in the method of Philosophy, it must seem almost like effrontery to put forth a book under such a title as *The World and its Meaning*. What do we know, what *can* we know about the world and its meaning? Through the aid of science we do indeed know something about the stars, something about the Earth and its origin, something about the plants and animals which cover the Earth's surface, and something about the chemical constituents of matter — but about the world as a whole and its interpretation there is nothing but conjecture. Philosophy (continues the doubter) is, I believe, the term applied to this hopeless study of the world and its meaning, and the outcome is only a collection of fables.

> Myself when young did eagerly frequent
> Doctor and Saint, and heard great argument
> About it and about: but evermore
> Came out by the same door where in I went.

There is, however, a very simple answer to all these complaints. The meaning of life and the meaning of the world are subjects of perennial human interest and it is neither arrogant nor presumptuous to write a book pertaining to any subject of deep human interest, provided it is done by way of discussion rather than by way of exposition. Furthermore, in an early chapter of this book I shall have something to say concerning recent progress in the actual solution of philosophical problems, comparing it favorably with the advance in other departments of knowledge. The unprogressiveness of philosophy is rather a silly tradition than an actual situation — a tradition no doubt encouraged by Omar's euphonic lines.

But whether philosophy is progressive or not, there are to-day a lot of new and vital movements in it which thoughtful people are anxious to know about, and one purpose of this book is to study these movements. If, as Professor James said, Pragma-

tism is to be the philosophy of the future, it is well to know just what Pragmatism is. If there is still hope for an idealistic view of the world, we are keen to know how Idealism stands to-day in face of the revelations of science. If the new physics and the new theory of relativity have thrown any light on the nature of things, we long to know what this light is. If the Freudians and the Behaviorists have contributed to a better knowledge of the nature and destiny of the soul, we should like to know what their contributions are. If on the other hand there is nothing in prospect but a blank agnosticism, even this we do not care to accept without first subjecting it to reflective thought.

The present book sets forth no system of philosophy — at least I hope not. "Systems" of philosophy are not now in good repute. Nevertheless, the book is not wholly impersonal. Theoretically, perhaps, one who writes an elementary introduction to philosophy should place impartially before the reader the various theories, reserving any comment of his own. But I doubt whether people like to read a wholly impersonal book. They enjoy an impartial book, but not an impersonal one. Readers usually like to get the viewpoint of the author, if only in a footnote. I have, therefore, not hesitated to indicate my own views, or at least to point out the direction from which the light seems to me to come. In this critical and individualistic age such a method is not likely to lead the reader astray. He will think for himself anyway.

The general standpoint of the book is, I suppose, realistic and pluralistic, and I hope theistic; certainly idealistic, and quite unmistakably optimistic. Furthermore, the validity of the realistic standpoint of the special sciences is quite shamelessly assumed, and it is taken for granted that they deal with realities and not with appearances. In accordance with this plan I have left to a late chapter the whole subject of epistemology, believing that much confusion and discouragement may be avoided by beginning objectively after the manner of the special sciences. Finally, I have dwelt upon the similarities among philosophical systems rather than upon their differences; for while the study of philosophy must stimulate thought, it should not discourage persistent

thinking by engendering a cynical skepticism. And, indeed, I think it is quite time to call attention to the agreements rather than the disagreements in philosophy.

The divergence of philosophical systems is a theme dear to the critics of philosophy, ancient and modern. But certainly in these later years a most encouraging *convergence* is beginning to manifest itself, giving promise of a real progress comparable with that of the physical sciences. Rationalism and Empiricism, for instance, as genetically approached by Professor Dewey, are now seen in friendly converse; Mechanism and Vitalism seem about to merge into some theory of creative evolution; while even Idealism and Naturalism, of old the most uncompromising of enemies, no longer appear wholly irreconcilable. If, with Norman Kemp Smith in his recent *Prologomena to an Idealistic Theory of Knowledge*, we define Idealism as a term covering all those philosophies which agree in maintaining that spiritual values have a determining voice in the ordering of the Universe; and Naturalism as the view that all these values emerge and begin to vindicate their reality at some late stage in the process of evolution, it is only at first sight that these two theories appear contradictory. Why may not spiritual values emerge late in evolution and yet have a determining voice in the ordering of the Universe? If we think of the whole world as a movement in the realization of these values, then the various steps in the evolutionary program would be regarded simply as indispensable stages in this realization.

The differences between Idealism and Naturalism appear still further softened by our newer knowledge of matter and our newer conception of mind. Some one, quoted by Hoernlé, says, "We know too much about matter now to be materialists." Perhaps he should have said, "We know too much about matter now to have any fear of Materialism." If still held, this theory would apparently have lost its reputation for being mechanistic, atheistic, irreligious, or even monistic. And as for Naturalism, we are finding *Nature* to be an immensely more complicated affair than in the innocent days of Herbert Spencer and the early Darwinians, so that there might be room in it for almost anything — for instance, secondary qualities, universals,

even Platonic Ideas. Thus, if the antithesis between Naturalism and Idealism has not melted away, at any rate the alleged leanness and meagerness of the former are no longer in evidence.

Idealism, too, is changing its character and losing its harsher aspects. Its subjectivistic forms are harder and harder to maintain. Many now call themselves idealists who claim neither that the world is dependent upon mind, nor the product of mind, nor a manifestation of the absolute, nor made of mind-stuff. It is sufficient to say that spiritual values are the significant things, that is, the *real* things in the Universe, and that perhaps they have a determining voice in its ordering.

A glance at the footnotes in the chapters which follow will show my indebtedness to many writers. It is a little difficult to single out those to whom I am most indebted, but I am sure that I owe much to Professors John Dewey, S. Alexander, Edward Gleason Spaulding, and Ralph Barton Perry. We all owe so much to James that special acknowledgment is unnecessary save by way of tribute; and I at least owe much to Bergson. I wish to thank Professor J. C. Manry for his painstaking reading of my manuscript and his wise suggestions, and Dr. H. Heath Bawden for his sometimes caustic criticisms, which I have found useful. I am much indebted also to Professor C. F. Taeusch for many suggestions and to Mr. H. J. Phillips for assistance in reading the proofs. J. Arthur Thomson has instructed me with his science and comforted me with his philosophy. I have to thank Charles Scribner's Sons for permission to print the quotation from Santayana facing the first page, and many other publishers for permission to quote from their books.

G. T. W. P.

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O world, thou choosest not the better part!
It is not wisdom to be only wise,
And on the inward vision close the eyes,
But it is wisdom to believe the heart.
Columbus found a world, and had no chart,
Save one that faith deciphered in the skies;
To trust the soul's invincible surmise
Was all his science and his only art.
Our knowledge is a torch of smoky pine
That lights the pathway but one step ahead
Across a void of mystery and dread.
Bid, then, the tender light of faith to shine
By which alone the mortal heart is led
Unto the thinking of the thought divine.

SANTAYANA

INTRODUCTION TO PHILOSOPHY

CHAPTER I

WHAT IS PHILOSOPHY?

Preliminary definition

Those who enter for the first time upon the study of philosophy are often puzzled to know what it is all about. The other sciences leave no doubt as to their subject-matter. Astronomy is about the stars; geology is about the rocks; botany is about the plants; psychology is about the mind. But what is philosophy about? It does not seem to have for its theme a perfectly definite group of facts. So at first one feels somewhat lost in this subject and wishes that it could be explained quite clearly just what philosophy is.

Let us see whether this very reasonable demand for a clear definition of philosophy can be satisfied. It is just possible that it may turn out to be an advantage that philosophy does not have a perfectly definite group of facts for its subject-matter, such as stars, rocks, plants, and mental processes. One gets tired sometimes of studying *facts*, and longs for *meanings* and *values*. Who is there that has not at some time or other thrown down his textbook and found himself wondering — Oh! What's the use? What's the difference? What's it all for? What's the value of it all?

Now, philosophy has just this for its task — to try to answer these insistent and persistent questionings of the human mind, as to the use, meaning, purpose, and value of life. Philosophy has been defined as *the cultural study of meanings and values*, or still more concisely as *the interpretation of life*. Or, adopting the oft-quoted phrase of Matthew Arnold, we may say that *Philosophy is the attempt to see life steadily and see it whole*.[1] In this telling

[1] Arnold said of the Greek tragic poet, Sophocles, that he saw life steadily and saw it whole.

phrase both the aim and the method of philosophy are given. The aim is to see life as a whole, not with the slant of the scientist or the business man or the clubman or the artist or poet or preacher or the university professor, nor with any slant at all; but to see it as it would be seen by "the spectator of all time and all existence"; [1] and the method is to see it steadily, with neither prejudice nor bias nor half knowledge.

A world view

Again, philosophy has been defined as *the attempt by use of scientific methods to understand the world in which we live.*

This attempt to understand the world, to combine the results of the special sciences into some kind of consistent *world view*, has always been the aim of philosophy from the days of Thales, the first Greek philosopher, to the present. But just what do we mean by *the world?* Among the Greeks it meant the *Cosmos*, or, as we should say, the *Universe;* and philosophers of all ages have courageously set themselves to this tremendous task of getting a theory of the Universe, its extent and duration (space and time), its creator (God), its purpose, its primary stuff or material, its relation to man and to his soul and destiny. To this end labored Democritus and Plato and Aristotle and Saint Augustine and Bruno and Descartes and Spinoza and Kant and Hegel and Herbert Spencer and others of the great "philosophers," and these immense world problems still haunt us and must be studied.

But at the present time this astronomical meaning of "the world" is less in our thoughts. With our modern individualistic, humanistic, and romantic moods we turn more to immediate interests, and "the world" means something else to us. With our northern climate, our indoor living, our big cities, our crowded populations, and our social life, the world we live in is not an astronomical world; it is rather a social, political, literary, moral, and religious world.

The ancient Greeks were much troubled by the problem of per-

[1] Plato said that the philosopher is the spectator of all time and all existence, and that he is one who sets his affections on that which really exists. — *The Republic*, VI, p. 486.

manence and change; but by change they meant physical change, the motion of material atoms and particles and the phenomena of growth and decay. These questions are still unanswered; but our interests now are with another kind of changing world — changing social customs, changing political relations, changing morals, changing religion, and changing literary standards. But this kind of "world" is quite as much in need of interpretation as the other — and so philosophy remains with us; only now it becomes the interpretation of *life*, its value and meaning, its source and its destiny. Hence, evolution, progress, knowledge, the ways of the mind, problems of conduct and society have come into the foreground; but it is as true as ever that philosophy is an attempt to understand the world we live in.

Despite the rather strenuous life that we lead now, busied as most of us are with athletics and social activities, with books and magazines, with college routine, with recreations and amusements, I believe that we are more thoughtful and inwardly serious than in former times; and that the philosophic impulse dawns earlier in our lives. Old philosophies and established traditions are no longer received without question. The spirit of fresh inquiry is everywhere; but the trouble is that, owing to our intensely social life, time is lacking for careful and persistent study of the life problems. In the study of philosophy we simply take time to think some of our problems through.

Probably there are very few of us who have not seriously asked just such questions as these: Can we any longer hold a religious view of the world? Is there any God at all, or is there nothing but matter and energy? What is matter made of? Is my mind, which is now thinking and wondering, something different from matter, or is it just a grouping of atoms or a function of my body? I am alive. What is life? Sometime I shall die. What is death, and is there any part of me which may survive it? Tomorrow I shall do many things. Some of them will be right and some wrong. What is right and what is wrong? All about me I see men striving for money and fame and pleasure. Are these really the highest values, or are there other values that are higher and better, such as peace, simplicity, faith, love, work, the enjoy-

ment of art, the pursuit of science? What is most worth while? I can ask all these questions. Is it possible to find an answer to them? What are the limits of knowledge?

Again, objects of beauty surround us in nature and in art. Some of the buildings in our city or on our college campus are beautiful and some are ugly. Just what is beauty? What is it that we enjoy in classical music and what is it that we admire in the old masters, in the Gothic cathedrals, in the Greek temples? I admire the sunset, the moon seen through the clouds, the wild flowers, the autumn leaves. Would nature be beautiful if there were no eye to see it or no mind to appreciate it? I walk through the crowded city and see men striving and straining for wealth, position, power. Some of them are loudly declaiming against injustice, and I long to know what justice is and why men struggle and strive. All these are philosophical problems.

To *ask* these big questions, to *reflect* upon them, to *study* them in a scientific way and to *try to answer* them — this is philosophy. Or, as James said, philosophy is after all just "an unusually persistent effort to think clearly."

The search for unity

Herbert Spencer defined philosophy as *completely unified knowledge*, contrasting it with science, which is partially unified knowledge. His notion was that philosophy tries to unite the several sciences into a unified system, just as each special science tries to unite the particular facts within its own field into a unified system. This was a very ambitious conception of philosophy; we do not hope now to realize it. But it was defective in another way. It was formulated in the last century when our hopes were bright that the natural sciences, physics, biology, psychology, sociology, would solve the world riddle. These hopes have been somewhat disappointed. There is an unexplained residue — a romantic element in life, even an element of tragedy — which must be taken account of in any true philosophy. And, besides, philosophy is something far more than the unification of the special sciences; it must satisfy not only our scientific interests but our moral and religious needs, our long-

ings and aspirations; these too are facts, which any system of thought must consider. If we could take *all* these facts and *think them together*, that would be philosophy.

Still again, philosophy has been defined as *an attempt to gain unity in our thinking*. This definition seems to differ only in form from the others. A theory of the world as a whole, of life as a whole, a world view, introduces unity into our thinking at once. We are very often perplexed and disturbed by the different and conflicting views of life which we get from the several groups to which we belong. At home we get one view of life, at school perhaps another. What we learn at church seems, it may be, quite inconsistent with what we learn in our science classes; while in our high-school groups or our college fraternities we get still another view of life. Which one is the true one? Or does each of these views contain some element of truth? If so, how can these various aspects of truth be distinguished and brought together into a consistent whole?

But young people are not the only ones who are worried and perplexed by the lack of unity. It is not, for instance, conducive to mental peace to be obliged to keep one's science and religion in separate water-tight compartments, nor to have one code of ethics for Sunday and another for week days, nor one set of principles for politics and another for business.

Wonder

But we must not think that philosophy has its origin in any kind of doubt or despair, or even in perplexity. Doubts and perplexities there are a plenty — and I hope that the earnest and persistent study of philosophy will remove some of them — but the source of philosophy goes back of all doubt and all perplexity and has its origin in simple wonder. Plato said that philosophy begins in wonder. The Greeks were devoted to philosophy, but as compared with us they were naïve and childlike in their outlook on the world, and free from disturbing doubts; but they were much given to wonder, and their wonder soon became serious and thoughtful.

Philosophy may, indeed, be defined as *wonder which has turned*

to serious and reflective thought. A little girl stood looking out the window, very thoughtful. Presently she turned and said, "Mother, what I don't understand is how there came to be any world." With this reflection she became a philosopher. Most children just take the world for granted; most men and women do also. But some children and some grown-ups are very thoughtful and reflective; they wonder what the world is, how it came to be, what it is made of, and what it is for. When their wonder becomes serious and reflective inquiry, they are philosophers.

Wisdom

Finally, philosophy has been defined as *wisdom.* The word *philosophy* is from the Greek word, *sophia,* wisdom, and the verb *philein,* to love. It is just the love of wisdom. Socrates disclaimed having wisdom, but said he had the love of it. But wisdom is precisely what he seemed to his contemporaries to have; he is the typical wise man and the world philosopher. It might prove troublesome to try to explain just how wisdom differs from knowledge; we can feel the difference, but we cannot express it. Perhaps taste and appreciation are involved. Is philosophy something like intellectual good taste? And is intellectual good taste something which enables us to appraise rightly the various *values* which are offered to us so freely in this rich and wonderful modern world of ours? We have become pretty well convinced that neither wealth nor pleasure is the highest value; and we are trying to find out what the highest values are. Every one seems to be pursuing something — but why? We seem to need a key to this puzzle of the relative worth of things — work, play, amusement, study, eating, drinking, love-making, science, art, music, poetry, social service, politics, business, and all the rest.

Metaphysics

In recent years this humanistic aspect of philosophy, this attempt to interpret life, to see things in the large, to gain the right perspective, has been emphasized much more than the older metaphysical problems, such as the nature of reality, of God, and

the world. In the philosophy of the present we hear a great deal about life and the self and evolution and the pragmatic values. The theory of knowledge and quest of reality, while they still hold us captive, yet are surpassed in interest by the theory of values. So it comes about that the word *Metaphysics* is now less commonly used. When used, it is often quite synonymous with Philosophy. Strictly, however, Metaphysics is a narrower term applied to problems of the world, of reality, of God, of purpose, of causality, and of mind; while Philosophy is a broader term, including first, all these subjects; second, Epistemology, or the theory of knowledge; and, third, the so-called normative sciences, Logic, Ethics, and Æsthetics.

Poetry and philosophy

In this connection Perry's distinction between the philosopher-poets and the poets who are not philosophers is illuminating.[1] This will help us still further to understand what philosophy is, especially in its newer aspects. Some of the great poets seek merely to describe life; others seek to interpret it. The latter are the philosopher-poets. One thinks of Lucretius, Omar Khayyám, Dante, Goethe, Wordsworth, Browning, and the Greek dramatists. Consider Æschylus, Sophocles, Euripides, or even Aristophanes, the comic poet. These men were dreadfully in earnest. They were moralists, thinkers, prophets, reflecting the national consciousness of their people. The prophet is a man who brings a message; and if the prophet is a poet, he is a philosopher-poet. Æschylus, for instance, depicts in majestic language the tempestuous power of fate against those who disregard the ancient laws of morals and religion. The immutable moral law and the fateful suffering of men constitute the burden of Sophocles' exquisite dramas; while Aristophanes in comic vein upholds the old traditions of Greece. Lucretius in Rome wrote a long poem in hexameter verse to set forth a materialistic theory of the world and save men from the fear of the gods; he would still be celebrated as a philosopher, had he written only in prose. Omar Khayyám in his exquisite quatrains presents a distinct philoso-

[1] Ralph Barton Perry, *The Approach to Philosophy*, chap. II.

phy of life. It is partly the felicitous form of his stanzas as translated by Fitzgerald that makes Omar so popular; but it is partly his strange philosophy and his conclusions, so repugnant to our reason, so agreeable to our fancy.

> Into this Universe, and *Why* not knowing,
> Nor *Whence*, like Water willy-nilly flowing;
> And out of it, as Wind along the Waste,
> I know not *Whither*, willy-nilly blowing.
> . . . . . .
>
> Strange, is it not? that of the myriads who
> Before us pass'd the door of Darkness through,
> Not one returns to tell us of the Road,
> Which to discover we must travel too.
> . . . . . .
>
> Ah, Love! could thou and I with Fate conspire
> To grasp this sorry Scheme of Things entire,
> Would not we shatter it to bits — and then
> Remould it nearer to the Heart's Desire?

It is Dante, however, who is the supreme philosopher-poet. He tells us in the *Divine Comedy* of the very shape and substance of the universe, of the origin of man and his destiny, and of the beginning of evil and its cure. In the beautiful lines of the *Paradiso* we read that from the very heart of the universe there streams forth the dazzling brightness of divine love, whose purpose is the redemption of man from sin. Goethe also is a thinker and a philosopher. The redemption of man is likewise his theme; but it comes now from experience, not from sacrifice and obedience. Wordsworth is burdened with "the heavy and the weary weight of all this unintelligible world," and Browning, "the soul dissector," comforts us with his belief in God and truth and love.

The wonderful appeal of all these philosopher-poets reveals the eternal demand in the human heart for a solution of the riddle of the world. We have our lyric and our epic moods and our dramatic and romantic moods, in which we delight in Sappho and Homer and Virgil and Horace and Shakespeare and Shelley and Keats and Byron and Swinburne; but perhaps over all prevail our philosophic moods, in which we turn to the philosopher-poets for light and consolation.

It is significant, in illustrating the philosophical tendencies of

the present time, to notice how even the drama has become philosophical. The modern dramatist wrestles with the problems of life. Ibsen is the fountain head of this new drama, in which the poet and painter have given place to the thinker and the teacher. Emancipation from outgrown and offensive traditions is Ibsen's theme and the feelings which he awakens in the reader or spectator are not so much those of æsthetic enjoyment as of thought and protest.

In the so-called problem plays, the author takes advantage of the prevailing philosophic mood to awaken interest in his play. Finally, in Bernard Shaw the æsthetic attitude is reduced to its lowest limits and there is little left but a preachment. The feverish interest with which we read the plays of Ibsen and Shaw and Galsworthy and the Russian school of writers reveals the longing we feel to have our doubts settled and to penetrate life's mysteries, even though we recognize that the beauty of poetry and the drama is somewhat dulled when they become too heavily laden with thought. But this philosophic tendency of poetry is one of the signs of the deep and prevailing interest in philosophy.

Finally, President Hibben says in his comprehensive way:

The problems of philosophy are, in fact, the problems of life, the burden and the mystery of existence, the origin and destiny of man, the relations which he sustains to the world of which he is a part, and to the unseen universe which lies round about him.[1]

It was in the time of Socrates that the word *philosophy* first came into general use. With Plato and Aristotle the word assumed the more technical meaning of real knowledge, or knowledge of ultimate reality, somewhat like the German word *Wissenschaft*, or our own word *science* when used in its broader meaning. In later Greek times, among the Stoics and Epicureans, the word came to have a narrower meaning, as the guide of life. In periods of political turmoil or religious perplexity, such as

[1] John Grier Hibben, *The Problems of Philosophy* (Charles Scribner's Sons), p. 3.

those preceding the Christian era, men have little time or taste for pursuing deep philosophical speculations; but they need a philosophy as a guide of life and usually adopt some philosophical system which seems suited to this end. Philosophy thus becomes the art of living; to the Stoic the art of living wisely, to the Epicurean the art of living happily. Even now the word is often used popularly in this sense, as when we speak of "a philosophic attitude," or of taking anything, particularly any calamity, "philosophically"; calm or fortitude is evidently what is meant. Philosophy in its true meaning, as wisdom and the search for truth, although it may very well lead to such calm and fortitude, should not be confused with this practical end.

Another misconception of philosophy arises when we confuse it with applied science. Francis Bacon is sometimes ranked among the philosophers; but his conception of philosophy was wholly utilitarian. Bacon thought that the primary aim of knowledge is to enable us to gain power over nature to the end of human utility. Although many people still think of science in this way, as existing to minister to our technical interests in its many applications to arts and industries, it is doubtful whether any thoughtful person would so regard philosophy now. Recently, however, the attempt has been made to reconstruct philosophy so that it shall find its sole justification in its contributions to social welfare. In these days of social uncertainty a person's interest in social welfare may become so absorbing that he would wish to see all knowledge, even philosophy, subordinated to that practical end. But no matter how strong our practical and social interests are, we have moments and hours when we thirst for knowledge for its own sake. We wonder about God, the soul, and the world; we even wonder whether knowledge itself is possible. This wonder when it issues in serious and reflective thought is philosophy. William James, whose name will appear so often in the following pages, because he did so much to turn philosophy away from barren metaphysical discussions to richer human interests, said in a letter written at the age of twenty-three, "I am going to study philosophy all my days."

In connection with this chapter read:

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CHAPTER II

PHILOSOPHY AND SCIENCE

BETWEEN science and philosophy the very closest relationship exists. They spring from the same root, the love of knowledge; and they aspire to the same end, the knowledge of reality. The day has gone by when metaphysical "systems" can be constructed independently of the physical sciences.

So intimate is the relation between science and philosophy that some knowledge of the special sciences, especially of the more generalized branches, such as mathematics, physics, chemistry, biology, and psychology, is indispensable to the student of philosophy. The ever-widening fields of these sciences make it more and more difficult for the philosopher to be in mastery of them. This is conducive to a healthy humility. Ready-made systems constructed without due regard to the results of observation and experiment are held in less and less respect. Therefore philosophy is at the present time tending rather in the direction of the critical analysis of concepts and the study of meanings and values — in a word, to logical and humanistic studies. Nevertheless, the ideal philosopher must be master of all the special sciences.

What is science?

The word *science* comes from the Latin word for knowledge and is derived from our old familiar friend in the First Latin Book, *scio, scire.* Science is knowledge. But there are different kinds of knowledge, and by scientific knowledge we mean that which is certain, exact, and fully organized: real knowledge, well organized, is scientific knowledge.

Since philosophy, too, seeks a knowledge of the world, the two subjects would seem to have the same aim; yet there is a difference. Sometimes it has been said that science *describes* while philosophy *interprets.* Mr. J. Arthur Thomson, whose little

book entitled *An Introduction to Science* is recommended to the reader, following Pearson and many other modern scholars, defines science in this way:

Science is the complete and consistent description of the facts of experience in the simplest possible terms.

The scientist in his study of any group of phenomena first collects his facts, analyzes and classifies them, studies the conditions under which they occur (that is, their causes), ascertains their uniform modes of behavior (that is, their laws), and sets all of this down in the form of a systematic treatise. Here his work ends.

Now, of course it *is* a kind of explanation of a thing to show the conditions under which it occurs — that is, its causes — as when we explain typhoid fever by calling attention to the invariable presence of a certain kind of bacillus; and it *is* a kind of explanation of a thing to show that it is an instance of a general uniformity or *law*, as when we show that a pendulum, constantly falling to its lowest point, is an instance of the general law of gravitation, all natural bodies, like the pendulum and the earth, tending to move toward each other. But still it is true that science really attempts no ultimate explanation of things, only analyzes and classifies them, determines the conditions under which they occur and formulates their modes of behavior.

The work of science, then, is as follows: [1]

I. The acquisition of facts
II. The description of facts
    1. Definition and general description
    2. Analysis
    3. Classification
III. Explanation of facts
    1. Ascertaining causes (invariable antecedents)
    2. Formulation of laws (uniformities of behavior)

Philosophy and science

Now, philosophy is like science in seeking knowledge which is certain, exact, and well organized. But it is not satisfied with

[1] Compare Jared Sparks Moore, *The Foundations of Psychology*, p. 97.

this; it seeks knowledge which is also *comprehensive*. The human mind is not content merely to determine the invariable sequences of phenomena and to formulate their manner of behavior. It craves some ultimate explanation of things — their first cause, their moving cause, their purpose, their meaning, their value. It is this attempt to *interpret* the world, then, which is one of the tasks of philosophy; while science classifies, formulates, and describes. *The object of philosophy is,* as Mr. Broad says, *to take over the results of the various sciences, to add to them the results of the religious and ethical experiences of mankind, and then to reflect upon the whole. The hope is that, by this means, we may be able to reach some general conclusions as to the nature of the Universe, and as to our position and prospects in it.*[1]

It is no doubt this *ambitious* enterprise, this hope to get a synoptic view of the work of the special sciences, and then to find some *meaning* in the whole that has in the past led to the unfavorable criticism of philosophy by scientists. But of course neither the attempt to gain a synoptic view of the whole nor the attempt to interpret its meaning could be in itself an occasion for criticism; for the human mind has a primary interest in both these things, and any object of human interest whatever is a legitimate subject for scientific inquiry, provided scientific methods are used. The critical attitude could only arise from the use of wrong methods in the work, or from the alleged hopelessness of the undertaking. The latter criticism would be a very weak one, and could have been made at any stage of the progress of thought against the possibility of the achievements of science itself. As regards method, it is of course true that in the past logical methods have not always been used in the study of philosophy, just as they have not in science.

Let us defer till a later chapter the question of method and get well fixed in our minds the subject-matter of philosophy. I think we may say that it has two distinct tasks, both of which differ from the work of science, and both of which are clearly legitimate fields of human thought. The first, then, is the con-

[1] C. D. Broad, *Scientific Thought* (Harcourt, Brace and Company, 1923), p. 20. The original not italicized.

scious reflection upon the world as a whole, particularly as to its meaning, purpose, and value. The second is the critical examination of the concepts made use of both by science and common sense. The first has been called speculative philosophy, the second, critical philosophy.[1]

As regards the first of these two fields, let us notice again that it is one of the profound cravings of the human mind to get just this synoptic view of life which philosophy attempts. It is not merely a quantitative view of the world that we desire, its mathematical relationships, its predictability; we want and we must have some knowledge, or at least some theory, of its "*intrinsic qualitative character.*"

Science to-day is quantitative rather than qualitative. It expresses the relationship of the intensities of two phenomena — as, for example, the intensities of the electric current and of the illumination of an incandescent lamp — and compensates for its inability to answer the question "how" by its wealth of data as to "how much." Research monograph and textbook alike emphasize the observable quantitative relationship and rarely venture far into the speculative hinterland where "how" must precede "how much." As we teach science to-day in our schools the effort of learning the quantitative relationships too frequently leaves neither the instructor nor the student leisure for fruitful inquiry or speculation as to the mechanism itself.[2]

It is not the purpose of science to study meanings, values, and appreciations, and so from the scientific point of view this rigid limitation is not a defect. But since our primary interests relate to meanings and values, science must be supplemented by philosophy. My new motor car, for instance, is a thing of beauty, and it gives me joy just to contemplate its curves and its gloss and its correct proportions. It will have great *value* for me, as I imagine, enabling me to keep distant appointments, to economize time, to live more in the open air, to keep my family entertained, to maintain or increase my social prestige. It will have a *meaning* to my neighbors, revealing my unsuspected wealth and

[1] Compare C. D. Broad, *Scientific Thought* (Harcourt, Brace and Company), Introduction. In a later chapter we shall see what is meant by the word "speculative."

[2] John Mills, *Within the Atom* (D. Van Nostrand Co.), p. xi.

my taste and discrimination. The merely scientific aspects of the car, its physical causes and the laws of dynamics involved, are of less interest to most people; the values and meanings are the interesting things.

There is, to be sure, a science — namely, economics — which studies value. But the notion of economic value as a quality of objects by virtue of which they satisfy human wants or desires is not adequate for philosophy; for we immediately ask what *causes* the wants and desires; and whether really valuable things are those that satisfy *wants* or *needs*. And might it not be possible that values determine wants, rather than wants values? Do we desire things because they are good or are they good because we desire them?

Hence it becomes necessary to go beyond science to philosophy. Life must be interpreted, not merely described. It must be seen as a whole, not broken into separate parts. Its meaning and value must be sought, its purpose inquired into. Perhaps it has no purpose, meaning, or value; *but such a conclusion could be reached only after reflective inquiry, and such reflective inquiry would be philosophy.*

The critical analysis of concepts

The second task of philosophy, referred to above — namely, the critical examination of concepts — should now be explained more fully. We mention this as the second task because it is second in point of interest. In logical order it should be first.

All the sciences use certain concepts and make certain assumptions which require critical examination. There is need of some general science, such as philosophy, to undertake a critique of these concepts and their assumptions and carry the examination of them farther than the special sciences find necessary for their purpose. As examples may be mentioned such concepts as *law* — that is, *natural law — cause, space, time, matter, mind, energy, order, individuality, quality, quantity, series;* or, extending the range of thought a little further, such concepts as *truth, purpose, knowledge, God, evil, happiness.* Now, philosophy undertakes the critical examination of these concepts and assumptions.

Cause

Let us illustrate these limitations, which inhere in the very nature of science, by reference to two concepts, namely, *cause* and *law*. All the sciences are very much engaged in the ascertaining of causes, for, if causes are understood, the forces of nature can be controlled and the future predicted. So the scientist seeks for the cause of crystallization, of rust, of the souring of milk, of poor crops, of malaria and typhoid fever and cancer, of business depression and good times, of strikes, of war. In daily life we are all in search of causes: the cause, for instance, of the defeat of our football team, of the success of our neighbor's son, of the fading of our complexion, of our falling hair, of the leaking of our refrigerator.

But now what *is* a cause? What is causality? Here, then, is a philosophical problem; for science, although largely engaged in the search for causes, is not concerned with the metaphysics of causation. Of course science has to have a working basis for the determination of causes, and it has a very simple rule. A cause is an invariable antecedent. If we are seeking the cause of a certain thing, say typhoid fever, and invariably find a certain bacillus present, this is called the cause of the phenomenon. Armed with this conception of cause as mere *sequence*, and with the assumption of the Uniformity of Nature, the scientist is in possession of all that he needs to control phenomena and predict the future. Armed with the simple knowledge of sequence, he can go on to prevent typhoid fever, to avert the failure of crops, to secure good health, and the success of his children.

But still we do not know what a cause really is. There must be, so it seems to us, something more in causality than mere sequence in time; there must be some inner connection between cause and effect. This connection philosophy seeks.

The untrained mind looks upon the relation between cause and effect as if the cause *produces* the effect. The cause is a kind of *agent;* it does something to the effect; there is a process of *enforcement* between the cause and the effect. In the case of mechanical causes, it is very hard for us to believe that this is not true, and it would be very hard to prove that there is not something

like mechanical necessity uniting the effect with the cause; but science knows nothing of any such necessary connection and philosophy hesitates to affirm it, for, as Hume pointed out, the only necessity in the case may be a necessity of thought. We know nothing of objective necessity, and the conception of cause as an *agent*, which does something to the effect, no doubt is a kind of analogy carried over to nature from our own experience as agents. When I put forth effort and use strength in overcoming obstacles, as in moving physical objects, there is a feeling of *enforcement*, a feeling of myself as an agent effecting changes. When we do things or suffer things done to us, there is the feeling of *power* or *force;* and so, when we see things happening in nature, we carry over this inner experience of effort, or agency, which we think causes things to happen in our own lives, and assume that causation in general is just such a case of power or enforcement. This is called an *animistic* or *anthropomorphic* explanation of causation, explaining things in nature by our own feelings and experiences. And it is wholly unnecessary for science to make assumptions of this kind, since its ends may be fully served merely by the observation of uniformities as seen in the mere routine of experience. There is regularity and uniformity in the happenings.

But after all this has been explained to us, we still believe that there must be some other connection or relation between events than mere routine, and so philosophy, going beyond science, has attempted various theories of causation which shall explain this relation. Perhaps the world is a timeless process in which the principle of causality is reducible to the principle of logical ground. Perhaps the world is an organism in which every part is in sympathetic vibration with every other part. Perhaps the world is a dynamic unity in which there is interaction among all the parts. Perhaps there are no separate bonds uniting individual things, God being the bond that unites all things in himself. Perhaps all individual things are parts of one unitary being, giving apparent order and connection between things, the unity in things being that kind of unity called personality. Perhaps — and this may be the most profound interpretation of all

— cause is really just what in popular thought it is supposed to be, namely, *productive activity*, *creative power*, and perhaps the scientific use of the word cause, as a mere antecedent in time, points to cause as just a sign useful in the prediction of events.

Whatever the truth may be as to the inner connection of things, nowhere are the limitations of science felt more keenly than in the discovery of the real nature of causality. No inquiring mind can be permanently satisfied with the scientific treatment of causality as mere sequence.[1]

First cause

Again, since science rests quite content in the belief that every event has a cause and finds the assumption fully justified by its fruits, the student of philosophy will insist upon inquiring about the *first* cause. Going back over an infinite series from effect to cause, and then to another cause, does not satisfy his demand for some kind of a *whole* or completed system. So we say naïvely that in the beginning God created the world, and thus complete the picture, only to introduce other perplexities which we long to solve.

Furthermore, we may ask — Anyway, is it quite certain that every event has a cause? May it not be that things just happen without any cause? And, furthermore, am not I myself daily, perhaps hourly, conscious of acts of freedom, in which my choice is not determined by any antecedent event?

Final cause

But still another aspect of the cause problem shows the limitations of science and the need of philosophy. What shall we say of final causes? The expression *final cause* was used by Aristotle in a special sense. The word *final* here does not refer to any first or last cause, but to the *end* or *purpose* of an action, like the

[1] For a discussion of the problem of causality see:
Hume, *A Treatise on Human Nature*, bk. I, part III.
Karl Pearson, *The Grammar of Science*, 3d ed. part I, chap. IV.
John Stuart Mill, *Logic*, bk. III, chaps. III, IV, V, XXI, XXII.
Bertrand Russell, *Principles of Mathematics*, vol. I, chap. LV.
W. T. Marvin, *A First Book of Metaphysics*, chap. XI.

Latin, *finis*. In human affairs the end or purpose of an action, or a product of action, is spoken of as a cause, as when the observation of an anticipated eclipse of the sun is the cause of setting up a telescope in a certain place. So the question arises whether in nature, quite outside human affairs, there are ends to be gained which may be regarded in any way as determining all structures or processes; that is, whether final as well as efficient causes exist in nature. Science is not concerned with final causes, but the student wonders, nevertheless, whether things in nature are not in some way determined by ends to be attained.

Laws of nature

Next consider another fundamental notion in science, that of *law*. What is a law of nature? Science is very largely engaged in finding out these laws and formulating them, such, for instance, as the laws of chemical valence, or the laws of thermodynamics, or the laws of falling bodies. We speak of things *obeying* the laws of nature and of the world as being *governed* by natural laws. There is much confusion here in the popular mind, and the student should understand just what a law is in science, and what the limitations of the scientific view are. The word *law* is used in two wholly different senses, and it would be better if we had two words for the two ideas. In morals and in jurisprudence a law is a command, or rule, or injunction, which some authority imposes upon intelligent beings and which they are supposed to obey. In science the word has no such meaning; it means an observed uniformity in the behavior of things. Strictly a law of nature is a mere formula, or shorthand expression, for certain observed uniformities of behavior in natural objects. It is, as Pearson says, the *résumé* or *brief expression* of the relationships and sequences of certain groups of perceptions and conceptions, and exists only when formulated by man.[1]

So we see that laws of nature are not forces nor powers nor commands at all. They are nothing but shorthand statements of certain uniformities in the behavior of things. Therefore, the universe is not "governed" by the laws of nature; neither do

[1] Karl Pearson, *Grammar of Science*, 3d ed., part 1, p. 82.

things "obey" these laws. We shall have to look elsewhere for the *government* of the world, for laws of nature are impotent.

Thus it is that science does not explain *why* things act as they do, only *how* they act; what their *habit* of acting is. When we study the behavior of atoms in their chemical combinations we find that they behave in very definite ways, but we do not know why they behave so. They seem to have what we used to call *affinities* for one another, so that, for instance, two atoms of hydrogen combine with one atom of oxygen to form a molecule of water. But the word *affinity* seems to point to a theory drawn from human analogy and probably no chemist would countenance such a theory. He is content merely to record observed uniformities.

The law of gravitation first formulated by Newton does not explain why bodies gravitate toward one another, but only how they do so. The law says that "every particle of matter in the universe attracts every other particle with a force directly as their masses, and inversely as the square of the distance which separates them."[1] It occurred to Newton, watching the fall of an apple, as it is said, that all bodies throughout the universe — such, for instance, as the earth and the moon — tend to move toward one another, just as the apple tends to move toward the earth. The law expresses the manner of their movement, but it says nothing about the cause. Newton did not know why bodies move together, nor does any one know now. Even the word *attract* has a technical sense as it occurs in the law, for it is not implied that there is any "attraction" in the human sense between material bodies. They may be driven together; or, as Einstein thinks, their behavior may be due, not to any force acting between the bodies or upon them, but to the nature of space.

We see, therefore, that from the point of view of science, a law of nature is not only not a force or power, but that it tells us nothing as to the nature of the forces that are at work or even whether there are any forces. But the mind of man is so constituted that he longs to know not merely how things act, but *why* they do so. Hence the need of supplementing science by philosophy.

[1] Simon Newcomb, *Popular Astronomy*, 6th ed., revised, p. 81.

Before we leave the subject of law, there is another question that may come up. Even granting that a law tells us nothing about the forces which make things go and behave as they do, is it quite true to say that a law of nature is nothing but a formulation of an observed uniformity, and further that it is man-made, and has no existence until formulated by man? Pearson, as we have seen, makes this statement. So it would appear that Newton did not *discover* the law of gravitation, but created it. Surely, you say, the heavenly bodies behaved precisely in this manner before Newton observed them or indeed before any man ever existed. Well, while Pearson might make a logical defense of his position claiming that the law *is* the formulation of uniformities which are observed and hence imply an observer, and that in nature there are only certain sequences and relations, nevertheless there are many philosophers who would not agree with him wholly in this matter.

There are many other positions which might be taken. One might say the laws of nature are *decrees* of God, and hence resemble human laws as we use the word in jurisprudence. Or, if this position seems too naïve, one might say with Plato that laws are eternal realities, altogether transcending individual things, and that things behave according to the laws; or one might undertake a logical examination of the concept of law, tracing it back to the more general notion of the uniformity of nature, and that back to the still more general notion of *Order*, which latter concept is involved in the very notion of a universe or a cosmos.[1]

I have referred to two concepts, namely, that of *law*, and that of *cause*, which are constantly used in every science and which nevertheless are not defined by science in such a way as to satisfy the inquiring mind. The same is true of many other common terms used in science, such as *space*, *time*, *energy*, *matter*, *mind*. Thus it becomes apparent that some general science like philosophy or metaphysics is needed to examine these terms.

[1] For a clear treatment of the subject see Marie T. Collins, *Some Modern Conceptions of Natural Law*, and the profound discussion by Bernard Bosanquet in *The Principle of Individuality and Value*, as well as Josiah Royce's essay on "The Principles of Logic" in the *Encyclopedia of the Philosophical Sciences*, vol. I, pp. 67–135.

Facts of experience

There is one such term particularly in need of critical examination and this is the term *fact* or *fact of experience.*

If science is a complete and consistent description of the facts of experience, the question will arise, What is a fact of experience? Of course science has to have some definition of a "fact." It is usually defined as something immediately observed and not inferred, and the medium of observation is usually some of our organs of sense, such as the eye or ear or hand; but sometimes a fact may be something internally observed; for instance, a feeling or emotion. In general we may say that *sense-data* are the facts upon which science is built.

But now the philosopher is not satisfied with this disposition of facts; he wishes to know much more about them. Are the facts of science, then, nothing but groups or bundles of sensations combined into percepts? I thought, the reader will say, that science had a firmer foundation. I thought that science was the one thing in the world that was built on solid objective realities, not on "sense-data." If science is built on sense-data, on the perceptions of human beings, why, then its whole fabric is in a way subjective. I supposed that science tells us about objective things as they really are, and as they were before ever man existed.

But when we come to think of it, how is science going to get at these solid objective realities except through the sense organs of the scientist? So the problem arises, just what are these sense-data and how are they related to the real things of the world, or are *they* the real things? Thus we are forced into philosophy — into that particular branch of it called Epistemology, the science of knowledge.

Thus in the end we see something of the relation of philosophy to science. They have the same spirit and the same purpose — the honest and laborious search for truth. In this search for truth, science imposes upon itself a certain peculiar task and this task involves certain limitations. But the inquiring, wondering human mind chafes at these limitations and insists upon penetrating into regions lying beyond the field of science — and thus philosophy arises.

Applied science

In thus revealing the close companionship of science and philosophy, I have been using the word "science" in its broader and more dignified sense, as a certain kind of knowledge; namely, that which is exact, certain, and fully organized. It is hardly necessary to add that this is not the popular idea of science, which is apt to emphasize its practical side. Sometimes we think of science as a kind of wizard that is going to fight the next war. It is something of almost uncanny power, personified in our Edisons and Burbanks. It suggests *mastery* of the forces of nature. It is something which wrests from Nature her secrets in order to use them for practical ends. We immure ourselves in our laboratories and dig out the gold of science in order that we may exchange it for happiness in the form of labor-saving and time-saving devices, means of rapid transportation over land or water or through the air or instantaneous communication by the ether waves, cinematographic devices to afford us amusement and instruction, and subtle inventions of every sort to provide us with comforts and conveniences. Or science is conceived as a powerful ally of man, to which we may turn in time of want to learn how to increase the fertility of our soils, or in time of war to provide us with instruments for annihilating our enemies, or in time of sickness to discover X-rays to diagnose our diseases, or antitoxins to prevent them, or serums to cure them.

In other words, science to many people is just an *instrument* to be applied to increasing man's power over nature, not something intrinsically good in itself. It is applied science which they have in mind. It is interesting to know, however, that the great discoveries in science, even those which have led to these practical applications which are prized so highly, have usually been made by those who had no immediate interest in the practical applications, but were actuated purely by their scientific interest, by the love of knowledge for its own sake. It is, of course, this theoretical science which is so closely related to philosophy. And even the most practical people, those who are always thinking of the practical applications of knowledge, are not always in a "practical" mood. Sometimes we all thirst for knowledge for its own

sake. Then we turn to science in the broader sense, as love of exact knowledge. Sometimes we are in a mood of wonder, musing whether the whole world has any meaning, purpose, or value. Then we turn to philosophy. Or, perhaps, we are in a mood of doubt or even of despair, oppressed by the weight of our perplexities and cares — and then we turn to religion.

In connection with this chapter read:

J. Arthur Thomson, *Introduction to Science* (Home University Library, Henry Holt and Company), chaps. I, II, V.

Further references:

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CHAPTER III

PHILOSOPHY AND RELIGION

How are philosophy and religion related?

The relationship between philosophy and religion is very intimate, but is of a different kind from that between philosophy and science. Philosophy tries to gain a more unified and complete understanding of the world than does science, but religion attempts a still more perfect unity. While philosophy tries to get some unifying conception of the world which shall enable us to grasp its meaning in our thought, religion attempts nothing less than the securing of an actual unity or harmony between the individual and the world. In religion we attempt to adjust ourselves to the world, or the world to ourselves. It is not concerned so much with the knowledge of God, for instance, as it is with the gaining of God's favor, or the coming into friendly and harmonious relations with him.

Of course, a developed religion cannot operate without some conceptions of the world; but the center of religious interest is not in the conceptions as modes of knowledge. Thus a theistic religion posits a certain degree of knowledge of God; but the center of interest in it will be gaining the favor of God as thus known, or coming into friendly and harmonious relations with him.

Professor Ladd wrote an essay entitled, "Is the Universe Friendly?" [1] This is evidently a religious problem. To make the universe friendly is one of the aims of religion. Primitive man believed himself surrounded by hostile forces which he could not control — the sun and the sea, winds and tempests, lightning and pestilence. By means of offerings, sacrifices, and prayers, he hoped to render all these forces friendly. Under the influence of religion, the world became peopled with kindly and

[1] George T. Ladd, "Is the Universe Friendly?" *Hibbert Journal*, vol. 10, pp. 328–43.

beneficent spirits, standing in sympathetic relation with man, commanding awe and reverence and worship and obedience, yet protecting and befriending him. So it was in ancient India with Indra and Varuna and Soma. So in ancient Greece with Zeus and Poseidon and Apollo and Athena. So among the Hebrews with Jehovah.

It has been said that the function of religion is to make man feel at home in the world. But philosophy and science also make us feel at home in the world, by widening our knowledge and giving us the keen joy of comprehension; while religion does this in a more direct and human manner by introducing a personal relation between man and the powers of the Universe. Science, philosophy, and religion are all alike in this, that their aim is to understand the world; but the purpose of the understanding is different in each. In science the purpose is frequently pure theory, or knowledge for its own sake, but more commonly it is knowledge subordinated to practical economic ends. In philosophy the purpose is the love of wisdom and the resulting mental peace and satisfaction. In religion the purpose is peace, harmony, adjustment, salvation. Philosophy and religion thus deal often with the same ideas, such as the soul, its origin and destiny, God and creation; but the interests are different in the two fields. In the former, they are theoretical and intellectual; in the latter, emotional and personal — practical in a sense different from the practicality of applied science.

What is religion?

If any one who has not reflected much about such things should be asked what religion is, he might find it difficult to say. Perhaps he would take refuge in the remark that all definitions are unsatisfactory, and that religion especially is something which must be experienced, not defined. This is true, but nevertheless the word *religion* means something and it is well to know what it means.

When we think of religion, probably a group of things will come to mind, such as churches, prayers, sermons, songs, collections, creeds, and rituals, and a lot of people sitting quietly to-

gether. But evidently these things are not religion. If we study all the religions of the world, ancient and modern, and try to abstract the elements common to all, we should arrive at some kind of definition. Perhaps it would be something like this:

"Religion is a feeling of dependence upon the unseen powers which control our destiny, accompanied by a desire to come into friendly relations with them."

Religion is a belief in "a power not ourselves which makes for righteousness" and a desire to come into harmonious relations with that power.

"Religion is the consciousness of our practical relation to an invisible spiritual order."

Religion is the love of God. It is communion with the Oversoul. It is loyalty to the highest within us. "I, the imperfect," says Emerson, "adore my own perfect." Thus religion is based on a deep, instinctive feeling of higher values. It is the divinity within us reaching up to the divinity above. It is looking up very high to ultimate values and being drawn to them by sympathy and recognition. "Ideas and feelings are religious," says Wundt, "which refer to an ideal existence." Thus the names, symbols, and persons of religion are sacred, holy, because they are supreme values transcending common things. Hence the religious attitude is one of loyalty, devotion, reverence, humility.[1]

Spirituality

In religious writings the word *spirit*, *spiritual*, *spirituality*, are ever present. Perhaps the student has been confused by these words. They suggest hazy, ghostly things, the existence of which he has come to doubt. But these words now have a definite meaning neither ghostly nor mysterious. They refer to the things of highest worth. Spirit is nothing different from mind, but it is mind seen under the aspect of value. To be spiritual, says Santayana, is to live in the presence of the ideal. The

[1] On the definition of religion, see James B. Pratt, *The Religious Consciousness*, chap. I. Pratt defines religion as the serious and social *attitude* toward the Determiner of Destiny.

meaning of spirituality and its relation to religion are best expressed by Drake in these words:

> This disposition of the heart and will, through which a man comes to care for the highest things and to live in gentleness and inward calm above the surface aspects and accidents of life, we call, in its inner nature, Spirituality; when it is embodied in outward forms and institutions, and spreads among whole communities, we call it a religion.[1]

Thus religion loses its mysterious and dogmatic and oracular character and becomes the instinctive response of the soul in need. It is not something the "truth" of which we have to question and argue about and seek evidences for. It rests upon the recognition of a realm of higher values and a kind of instinctive sympathy with them and longing for them. Since the task of philosophy is to study the meanings and values of the world, we see how intimate is the relation between philosophy and religion.

Influence of philosophy upon our religious beliefs

One is often asked what effect the study of philosophy is likely to have upon our religious beliefs. I think it is sure to have a most wholesome effect. At first the study of philosophy may be disturbing, especially if one's religious creed is rather narrow and uncompromising. But if it is broad and simple, philosophy will strengthen it. Such a creed, for instance, is given in the Christian Bible: "What doth the Lord require of thee, but to do justly, and to love mercy, and to walk humbly with thy God?"[2] This passage seems to get at the three fundamentals in religion: righteousness, sympathy or love, and humility or reverence. As Bacon said, "It is true that a little philosophy inclineth Man's mind to atheism; but depth in philosophy bringeth men's minds about to religion."[3] Indeed, philosophy should help us to put our fundamental religious beliefs on a solid intellectual foundation and so relieve us of much perplexity and doubt. Sometimes our religious beliefs are held timidly and with trembling doubt. We have a subconscious dread lest "profane" science should come in

[1] Durant Drake, *Problems of Religion* (Houghton Mifflin Company), p. 244.
[2] Micah, VI, 8.
[3] *The Essays of Lord Bacon*, XVI, "Of Atheism."

and dissipate our beliefs. Philosophy takes us up into the mountain-top and allows us to look over into this valley of uncertainties. In this, as in many cases, knowledge banishes fear. Having seen the worst and found it not so very bad, thereafter there is greater peace.

Ethics and religion

Religion should not be confused with ethics, which is a normative science dealing with the standards of right conduct; nor should it be confused with right conduct itself. Religion is a powerful motive to righteousness, but it is more than righteousness. Its essential note is reverence and its peculiar aim is harmony and adjustment; and harmony with the highest involves righteousness of conduct. History shows us how hard it is to *compel* men to do right, but in some great *cause* their energies may all be enlisted and the best in them drawn out; it is love rather than fear that is really effective. The motive of loyalty makes the most powerful appeal to men. "The spirit of religion," says L. P. Jacks, "is that of uncompromising loyalty to the highest."

The comparative study of religions

Nothing has done more to vitalize the interest in religion in recent times than the study of the history of religions. Some good book on this subject should be in the hands of every student, and he should become familiar with the religions of ancient India, of Greece and Rome, of Scandinavia, of the Mohammedans, of the ancient Hebrews, as well as with the history and meaning of Christianity. Common to all will be found the belief in unseen powers which rule the world and make for righteousness and a desire to come into harmonious relations with them, with perhaps always the feeling of unity and the certainty of response.

The social character of religion

In recent literature on the origin and nature of religion, a literature most extensive and vital, much emphasis has been put

upon its social character. This movement is apparently a part of the general emphasis upon the social nature of man which characterizes this century. The nineteenth century called attention to the evolution of man and his relations to the lower animals. The twentieth century has the more attractive task of investigating his social nature and social relations. The study of religion from this point of view has thrown much new light on the whole subject.[1]

It is pointed out by this modern school that religion is social in its origin, a kind of expression of group consciousness. Early religious rites and ceremonies were performed by or on behalf of the whole group, and an important function of early religions was evidently that of social control. Religion, in its real meaning, is the emotional expression of the collective spirit of the group and has its purpose in cementing the group into a closer and more effective union. The teaching of Jesus, representing religion in its most perfect form, is preëminently social, emphasizing love, sympathy, coöperation, and righteousness. Particularly at the present time we are living in a positive, scientific, and social age. Our religion, if it is to survive, must be positive, scientific, and social, having as its end the more perfect socializing of humanity, emphasizing love and sacrifice and community of interest. Just now, as it is pointed out, with the massing and crowding of populations throughout the world, there is instant and imperative need of religion as a socializing power. To this end a reconstruction of religion is necessary, recognizing its social origins and the social needs of the present.

With this emphasis upon the social value of religion, we must all be in full sympathy. But it does not follow from this that it is to be *defined* as the conservation of social value, or as a valuing process, or as an effort to realize higher social values. As thus conceived, religion loses its very heart, which is the belief in su-

[1] Compare:
Emile Durkheim, *The Elementary Forms of the Religious Life.*
Jane Ellen Harrison, *Themis; A Study of the Social Origins of Greek Religion.*
Charles A. Ellwood, *The Reconstruction of Religion.*
E. S. Ames, "Religious Values and the Practical Absolute," *Int. Journ. Ethics*, vol. XXXII, no. 4.
George Willis Cooke, *The Social Evolution of Religion.*

perhuman forces and powers, in an unseen moral order which commands our loyalty and allegiance. In religion we look up to God, not around to our fellow men; and it is precisely this upward looking, this admiring contemplation of something above us, something supremely good and grand and pure, which gives religion its socializing power. Therefore any attempt to "reconstruct" religion, making it merely a society whose purpose is social welfare, will shear it of its vitalizing force.

I do not know whether this attempted reconstruction has come about through the notion that religion hitherto has rested upon the belief in the supernatural, and that science has destroyed our belief in the supernatural, and that it is therefore necessary to reconstruct our religion on a natural, that is, a merely human, basis. Science has, indeed, shaken our faith in the supernatural, but fortunately religion does not rest upon the retention of that term. The word *supernatural* gets its meaning from the connotation that may from time to time be attached to the simpler words *nature* and *natural*. If we think of nature as "whatever exists" obviously we cannot believe at the same time that the supernatural exists. But anything which exists of course continues to exist even if some of us call it natural and others call it supernatural. God is in nature. The power not ourselves which makes for righteousness is in nature; and it is just the faith in these powers — these unseen forces all about us, responsive to our inner longings and our profound needs — that gives religion its never-failing vitality.

Humility and religion

What is wanted is not a reconstruction of religion, but a revival of it, a revival not in the form of emotional upheavals or miraculous exhibitions, but in the form of *a revering sense of the eternal values*. If religion at the present time has lost any of its former glory, the cause is not difficult to see. The present age has placed its reliance upon certain new-found gods — science, invention, industrial and commercial progress, social reconstruction, new forms of social organization, the new hygiene, labor unions, prohibition, votes for women, societies for the promotion

of everything good and the prevention of everything evil, clubs, fraternal societies, and organizations of a thousand kinds.

Just at present, our trust in these things, particularly our trust in science and its practical benefits and our trust in the new control which we have gained over natural forces, is becoming less confident. There are many indications that these things are about to fail as a means of social regeneration. We hear of "civilization at the crossroads" and "salvaging our civilization." [1] When doubts begin to assail our hitherto self-confident age, the outlook for religion becomes brighter. Religion does not flourish in a cock-sure, self-glorying era, such as that preceding the Great War. Something of humility is essential to the religious attitude. So long as the ever-advancing discoveries of science were being applied to lessen our discomforts and remove our fears and anxieties, we did not so much feel the need of religion. But when, as may happen, we make the discovery that our wonderful inventions, our wireless telegraphy, our radio conversations, our warships and airships, as well as our countless organizations and uplift movements, are powerless to avert social disaster, and that our materialistic civilization has done little to promote the things of higher value, art, literature, morality, peace, and social stability, then perhaps the mood of religion will return. We shall need the fruit of the spirit, such as love, peace, kindness, faithfulness, temperance.

At all events, we see that the relation between religion and philosophy is most intimate. If we define religion as *the cultivation of the spiritual values which are ever present, but sometimes dormant, in the human soul*, it belongs to philosophy to scrutinize these values, determining their source and their objective equivalents. If, again, religion is the response of the soul to the divine forces of the universe, philosophy must tell us about these divine forces and whether any such exist. If, as one writer says, it is indispensable to the religious attitude to believe that somehow there lies behind things a power or essence that has something in common with our own nature, something that can without abuse

[1] See, for instance, the recent book by Edward M. East, *Mankind at the Crossroads*. (Charles Scribner's Sons.)

of language be called personal, then philosophy must determine whether there is in science or metaphysics anything to prevent our believing in such a personal power; and what, if any, reason there is in science or metaphysics for so believing.

Perhaps then it will be discovered that the old conflict between religion and science has disappeared with our better understanding of what science really is and our fuller understanding of religion.

In connection with this chapter read:

Irwin Edman, *Human Traits and Their Social Significance.* (Houghton Mifflin Company), chap. XII.

Further references:

W. K. Wright, *A Student's Philosophy of Religion.* (The Macmillan Company.)

Arthur C. McGiffert, *The Rise of Modern Religious Ideas.* (The Macmillan Company.)

William James, *The Varieties of Religious Experience.* (Longmans, Green and Company.)

George R. Dodson, *The Sympathy of Religions.* (The Beacon Press.)

Émile Boutroux, *Science and Religion in Contemporary Philosophy.* (The Macmillan Company.)

Richard Cabot, *What Men Live By.* (Houghton Mifflin Company.)

Josiah Royce, *Sources of Religious Insight.* (Charles Scribner's Sons.)

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G. A. Barton, *The Religions of the World.* (The University of Chicago Press.)

Matthew Arnold, *Literature and Dogma.* (The Macmillan Company.)

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CHAPTER IV

METHOD IN PHILOSOPHY

In the study of philosophy it is important to discuss the technique or method to be followed. Preliminary even to this, perhaps, we ought to ask whether the problems of philosophy are of such a character that it is possible to answer them, or worth while to try to do so.

In this chapter, then, suppose we discuss these two questions: Is it possible, or, if possible, profitable, to study philosophy; and if so, what method may we use?

I

Is philosophy possible or profitable?

Any one taking up philosophy for the first time must be impressed, I am sure, and possibly frightened, by the magnitude of the subjects under discussion. It seems quite presumptuous to study such immense questions as the nature of reality, the meaning and purpose of the world, and the value of life. The scientist, who devotes himself to a snug little corner of reality — for instance, animal morphology, geological strata, or political organization — is perhaps inclined to criticize the philosopher for the largeness of his field.

However, the scientist, whatever his domain, soon finds that it is anything but a snug little corner. It is revealed as so immense and has so many interrelations and reaches out to so many other sciences that he is almost forced into philosophy himself; at any rate, ceases to criticize the latter because of its largeness.

Nevertheless, there have been schools of thinkers who, frightened or repelled by the vastness of the problems of philosophy, have refused to enter upon their study. Two such schools may be mentioned here, the Positivists and the Skeptics.

Positivism

The Positive Philosophy is a technical term applied by the

French philosopher, Auguste Comte (1798–1857), to his view of the world. Comte believed that the search for first causes, ultimate reality, and all such things, is wholly vain. The human mind must confine itself to actual facts, to *phenomena*, as we call them; that is, to things as they appear in our actual experience. It is useless to try to find out what lies back of phenomena, about things in themselves. Philosophy must limit itself to discovering the relationships between phenomena and their invariable modes of behavior.

Comte's interests were in sociology, a science of which he claimed to be the founder; and he thought that scientific methods might be applied to the study of society to the end of greatly increasing human welfare. Positivism, therefore, really amounts to this: Science is the final stage of human thought. It deals with what is certain, useful, positive, especially with what is useful for perfecting our social institutions. No one would care to disagree with Comte in his emphasis upon the value of science, nor would many, perhaps, question his opinion regarding the supremely important position of the social sciences. Few possibly would agree with him that the study of wider philosophical problems is vain.

Skepticism

Another school which would discourage us from approaching the mount of philosophy is that of the Skeptics. Skepticism first appeared in ancient Greece in the time of the Sophists. Gorgias, for instance, said that nothing exists; if it did, we could not know it; if we could know it, we could not communicate our knowledge to others. Later, in the Græco-Roman period, Skepticism took the form of a "school" of philosophy led by Pyrrho. Although these thinkers came after the brilliant age of Socrates, Plato, Democritus, and Aristotle, and the many Greek triumphs in the fields of mathematics, logic, metaphysics, and ethics, nevertheless, they despaired of gaining knowledge. They were fond of pointing out the contradictions in the opinions of philosophers and of asserting in quite a dogmatic fashion, unbecoming, as one would think, in a Skeptic, that knowledge is im-

possible. The conclusion which they drew also seems strange to us. They thought it better to suspend judgment on all the questions that the philosophers had discussed about God and the soul and the world, and thereby attain for themselves mental poise and tranquillity. This was a characteristic Greek attitude. The Greeks, especially of the later period, wanted to live in a tidy, well-ordered, and circumscribed world. It disturbed and perplexed the Stoics, Epicureans, and Skeptics to labor with the unending problems which philosophy offers. All the Greek schools, therefore, after Aristotle, sought for some philosophy of life which should free their minds from fear and afford equanimity and peace.

In modern times, Skepticism in the Greek sense has almost passed away. The last distinguished Skeptic was David Hume (1711–76), but even his skepticism is not the radical slashing kind of the Greeks, but rather a critical inquiry into the actual limits of knowledge. Faint-hearted resignation does not commend itself to our modern genius. A resolute and hopeful facing of every problem with persistent and undaunted efforts to solve it — this is the modern spirit. Philosophers may differ, human judgment may be fallible, our senses may deceive us; but we will find out which of the philosophers is right, how wrong judgment may be righted, and how the deception of the senses may be corrected. The modern spirit is one of courage and adventure. Hardship and death attended the discovery of the Antarctic pole; but all difficulties were surmounted and the pole was visited. The top of Mount Everest has not yet been reached; but it draws us on and will sooner or later be conquered. Two students were heard discussing their courses of study. One said, "I am going to specialize in organic chemistry." "Why?" asked the other. "Because," said the first, "I believe it offers more *problems* now than any other subject." There is plenty of doubt in modern thought, but it acts, not as an anodyne to lull us into equanimity, but as a spur to drive us to further and more persistent inquiry. Hence doubt has an important function in our philosophizing, not only spurring us to action, but discouraging dogmatism. Bertrand Russell speaks of "liberating doubt."

"Philosophy," he says, "removes the somewhat arrogant dogmatism of those who have traveled into the region of liberating doubt and it keeps alive our sense of wonder by showing familiar things in an unfamiliar aspect."

> "Rather I prize the doubt
> Low kinds exist without,
> Finished and finite clods, untroubled by a spark."

Browning would surely have little sympathy with one who should say that the questions of philosophy cannot be answered; therefore, we should not raise them. To him life is an eternal adventure, an endless process of development, in which

> "We fall to rise, are baffled to fight better."

Doubt and even bewilderment beset the student in the pursuit of philosophy, but to raise the doubt, pursue the truth, and hope to attain it — this is the great adventure of the human spirit.

We hear more now of Agnosticism than of Skepticism. The term was first used by Huxley, but has usually been associated with the name of Herbert Spencer. In its Greek origin it means "without knowledge." Spencer believed that absolute knowledge is impossible. All knowledge is relative and cannot go farther than such facts as matter, motion, force, and consciousness, and all these are merely symbols or modes of the Unknowable. Spencer's Agnosticism is thus only a form of Positivism, and not of the extreme type, since he goes further in his assertions about the Unknowable than a positivist would feel entitled to do.

Huxley used the word in a religious sense to indicate his belief that, though we may not deny the existence of God, we can know nothing of his real nature. This is the more common meaning of the word *Agnosticism* now. In philosophy it is generally used in its Spencerian sense, indicating that human knowledge is relative and limited, so that knowledge of ultimate reality is impossible. There would seem to be little to criticize in such a guarded Agnosticism as this, but in general Agnosticism is too apt to emphasize the limitations of knowledge, sometimes having a flavor of dogmatism, confidently affirming that the kind of knowledge which philosophy seeks is unattainable, thus going beyond the

more modest attitude of doubt. It is therefore contrary to the spirit of philosophy, which is that of persistent, unwearied inquiry. One writer speaks of the agnostic as a quitter.[1]

Some world view inevitable

The fact is that the whole discussion as to whether we shall or shall not enter upon the study of philosophy was settled long ago by Aristotle when he said, "Whether we will philosophize or whether we won't philosophize, we must philosophize." Wisely Edwin Wallace said, "Consciously or unconsciously every man frames for himself a theory of the relation of the individual to the universe, and on his attitude to that question his whole life and conduct, public and private, depend."

Most people who decry the study of philosophy have a system of their own often quite complete. Some theory of God they have, if only it is to deny that there is any God. Some theory of the universe they have, if only the three-story view of "Heaven above, Hell below, and the Earth in between." Some theory of values they have, if only that personal gain is the highest good. Since, then, we are all to have some theory of life and the world, it will be well to have as intelligent a theory as possible, formed after a critical and historical study. It will be well to study the great world views of the great world thinkers, of Plato, Aristotle, Saint Augustine, Spinoza, Kant, Darwin, Royce, and James. We shall be surprised to find, if we follow the history of philosophy down to the present, how great has been the progress in really solving many of the difficult problems, and how idle is the complaint that they cannot be solved.

There is a general impression that metaphysical inquiries are especially baffling, and that the history of philosophy is a history of speculative theories, quite in contrast to the steady and triumphant progress of the physical sciences. It is true that tremendous progress has been made in the physical sciences in the last hundred years; but it is also true that the history of science is a history of discarded theories. Recently some of our most cherished beliefs respecting the Euclidean geometry, the Newtonian

[1] Scudder Klyce, in his *Universe*, p. 9.

physics, and the Darwinian theory of evolution have been called in question, and in late years our theories of the constitution of matter have been revolutionized. Nevertheless, there has been a steady and brilliant advance. Precisely the same is true of philosophy. I should say that in the last twenty-five years progress in philosophy has been quite as rapid and quite as brilliant as progress in science, if, indeed, we wish to make any sharp contrast between them.

In some respects, indeed, "science" has made less progress than "philosophy" — its most general conceptions would astonish neither Aristotle nor Descartes, could they revisit our earth. The composition of things from elements, their evolution, the conservation of energy, the idea of a universal determinism, would seem to them commonplace enough — the little things, the microscopes, electric lights, telephones, and details of the sciences, would be to them the awe-inspiring things. But if they opened our books on metaphysics, or visited a philosophic lecture room, everything would sound strange. The whole idealistic or "critical" attitude of our time would be novel, and it would be long before they took it in.[1]

Science not to be confused with applied science

I suppose the reason that the advance in science seems so much greater than the advance in philosophy is because our attention is usually fixed on the brilliant results of the special sciences in the mechanic and industrial arts. It is not science, but applied science, that is meant. We have become accustomed to swell with pride when we think of what science has done for man. Every schoolgirl knows by heart the long list of benefits which it has conferred, the wireless telegraph and telephone, the ocean greyhound, the limited express, the automobile, the aerial mail, the long list of time-savers and labor-savers adding to our daily comfort; the conquest of disease through public sanitation, antiseptic surgery, and preventive medicine; the application of chemistry to agriculture, and the shortening of the hours of labor by the invention of machinery.

[1] William James, *Some Problems of Philosophy* (Longmans, Green and Company), p. 24. See also the article by James Ward on "The Progress of Philosophy" in *Mind*, vol. 15, no. LVIII, carrying the same thought.

Lately, however, and especially since the Great War, one hears less about the benefits conferred upon humanity by the mechanic arts. The social crisis through which the world is now struggling has led many to question, not the value of the physical sciences, nor even that of applied science, but the direction in which science has been applied. Perhaps the most conspicuous of the "triumphs" of applied science has been in the art of war, which actually threatens the destruction of our civilization. One muses also on our countless time-saving devices, wondering whether they have given us any more time for things really important. Are labor-saving inventions a benefit to humanity unless they are accompanied by a knowledge of how to use the new leisure? Has the moral and intellectual and æsthetic education of man advanced at equal pace with the progress of the mechanic arts, so that he can be trusted with his suddenly acquired wealth and leisure? Is it possible that our method of combating disease by protecting us from infective agencies may have the effect of weakening our *resistance* to disease? Is it true, as Todd says, that a pasteurized and sanitized society is not necessarily progressive or dynamic?

All these questions set us thinking. It is just possible that too much attention has been given to applied science and not enough to applied philosophy. Or perhaps science has been applied in the wrong directions. Possibly, instead of applying it with such dazzling success to the arts of war, to the increase of wealth, and to the accumulation of externalities, it should have been applied more to education, and to the conservation of racial, moral, and economic values. We have acquired too much wealth and not enough wisdom.

By virtue of the advancement that has long been going on with ever accelerated logarithmic rapidity in invention, in mathematics, in physics, in chemistry, in biology, in astronomy, and in applications of them, time and space and matter have been already conquered to such an extent that our globe, once so seemingly vast, has virtually shrunken to the dimensions of an ancient province; and manifold peoples of divers tongues and traditions and customs and institutions are now constrained to live together as in a single community. There is thus demanded a new ethical wisdom, a new legal wisdom, a new economical

wisdom, a new political wisdom, a new wisdom in the affairs of government. For the new visions our anguished times cry aloud but the only answers are reverberated echoes of the wailing cry mingled with the chattering voices of excited public men who know not what to do. Why? What is the explanation? The question is double: Why the disease? And why no remedy at hand? The answer is the same for both. And the answer is that the so-called sciences of ethics and jurisprudence and economics and politics and government have not kept pace with the rapid progress made in the other great affairs of man; they have lagged behind; it is because of their lagging that the world has come to be in so great distress; and it is because of their lagging that they have not now the needed wisdom to effect a cure. . . .

At present the future of mankind is dark. "Stop, look, and listen" — the prudent caution at railroad crossings — must be amended to read "stop, look, listen, and THINK"; not for the saving of a few lives in railroad accidents, but for the preservation of the life of humanity.[1]

Students of philosophy, therefore, need no longer be frightened away by a comparison of the meager fruits of philosophy with the richer fruits of science. If by philosophy we mean not systems of metaphysics or futile discussions about the Absolute, but rather the search for wisdom, the appraisement of values, and the careful logical analysis of concepts, it seems to be just what the world needs now.

II

Method

Philosophy, like science, is the search for truth, and it must, like science, pursue its search by the most rigorous logical methods. Scientific method itself is a result of philosophical inquiry, and science owes to philosophy the successive discoveries which have revealed the necessary steps in logical method. But philosophy itself claims no exemption from the rigor of the rules which must be followed in the pursuit of truth. Philosophy differs from science, not in its method, but in its subject-matter. It surveys the whole field of experience and even the conditions of experience itself — as well as the laws of thought by which we try to think through all these problems.

[1] Alfred Korzybski, *Manhood of Humanity* (E. P. Dutton and Company), pp. 20, 21, and 30.

Into the subject of logical method in general we have no need to enter here. For our purpose it will be quite sufficient just to mention the methods that are used in philosophy and to give a few simple rules to govern our thinking. But first we must examine a certain claim that has been made that philosophy does have a kind of esoteric method by which it can approach more directly to the portals of truth — at least some kinds of truth — than through the laborious method of logical research.

Mysticism

All through the history of thought there have appeared from time to time philosophers who have laid claim to a special and exclusive method. These were the Mystics. Mysticism is an interesting chapter in the history of thought; some of the finer spirits are found in this company. Perhaps their claim to a peculiar and direct insight into truth should not be hastily rejected.

The Mystics believe that certain kinds of knowledge, particularly the knowledge of God, come not through the labored efforts of reflective thinking, but through direct insight and intuition. The powers of reason may sometimes be transcended and we may have a direct approach to God, or an immediate union with reality, so that truth is felt, apprehended, or grasped in a single pulse of the soul life. Something like moments of ecstatic contemplation bring us face to face with reality.

Such was the view of Plotinus (204–69 A.D.), the Neo-Platonist, and something like this has been held by a great company of Christian Mystics, such as Saint Teresa, Saint John of the Cross, Meister Eckhart, Jacob Boehme, and George Fox; while mystical views may be found in the poetry of Shelley, Wordsworth, Tennyson, and Whitman, and in the *Essays* of Emerson. Indeed, Bergson, one of the most widely known and widely read of the philosophers of the present day, a psychologist, biologist, and evolutionist, teaches a kind of mysticism; for with Bergson, intuition is superior to intellect. Intuition is almost synonymous with life itself, leading us, at any rate, to the very portals of life. It is a kind of divining sympathy, like animal instinct,

only become self-conscious and capable of reflecting upon its object.

There is a certain *rapport* between nature and mind, which in our purely intellectual and scientific moods we cannot gain, and through which there comes to us a peculiar insight into the innermost secrets of life. This is not, in Bergson's view, like a revelation which comes to the mind from without, as in the older Mysticism. It is rather due to the fact that the mind itself is a part of the very current of life, which is more real than matter. This does not mean, as I understand Bergson, that philosophy has any esoteric method of discovering truth which science does not have; it means rather that the particular task which confronts the scientist in his dealing with the world of matter makes the intellect his instrument. But if the scientist in his philosophical moods were to go in search of reality, he would find himself in possession of another avenue of approach through direct intuition. The work of the philosopher here is somewhat like that of the artist, who *identifies* himself with the object, "putting himself back within the object by a kind of sympathy." It is as if, when we approach nature by means of the intellect, a certain "barrier" exists between nature and the mind, which intuition breaks down through sympathetic communication.

If this be Mysticism, surely the word should connote no quality of error, as it commonly does. It should rather be considered an interesting "lead" to follow up in our further search for the sources of knowledge. Just at present we may neglect this wider question, for we are now concerned not so much with the sources of truth as with the methods we may use in our study of philosophy; but I wonder whether the ordinary processes of reflective thinking do not involve a certain kind of intuition after all, not so wholly different from that which Bergson tells us of.

Method in philosophy

Let us begin with the ordinary method of reflective thought, as it is used in daily life and in scientific investigation. Later we may ask whether this method can be used in philosophy, and if so whether it is the best or the only method. Dewey, in his

little book *How We Think*, has given us a clear account of the procedure of reflective thinking.[1] Reflective thinking begins when there is some problem to be solved or difficulty to be met, as when, following a strange road, a traveler comes to where it forks; he will have to do some thinking then if he has never done any before. Deciding which road to follow is a little problem; philosophy offers us big problems, but the method of solution is the same.

First, we must analyze the situation carefully and collect all the facts bearing on it that we can; and we must be fair and impartial and unprejudiced in our observation of the facts. This elimination of the personal equation, of our tastes and preferences, of our likes and dislikes, and of our traditional and religious systems, is exceedingly difficult, and the failure to observe this has been the source of mischief in countless cases of philosophizing in the past. Prejudice leads us astray in the reflective thinking of our daily life and has been the cause of abundant error even in science. No progress in science or philosophy can be made, if we commit ourselves in advance to some fond theory. In daily life, when some problem suddenly presents itself, we are apt to fall back upon habit or custom in deciding it. Most of us have some ready-made "system," some favorite collection of ideas, which we have gotten from tradition or social inheritance, or from our political party, or our church, or perhaps from some book which has impressed us deeply, or from some new "movement" in poetry or popular fiction, or even possibly from an impressive picture on the screen, and we solve the troublesome intruding problem offhand by reference to this system. And it is very probable that in our solution of the question we shall be strongly influenced by our personal feelings, our wishes, and desires. Some "emotional complex" will decide the question for us.

But in philosophy and science our reflective thinking must be freed from these errors of "systems" and subjective interests, those "idols" of the theater and the cave, as Bacon called them.

[1] A further detailed description of the processes of thought as applied to science and philosophy may be found in an excellent book entitled *An Introduction to Reflective Thinking*, by Columbia University Associates in Philosophy.

This freedom from prejudice is an ideal which is very difficult to realize. In the physical sciences it has been realized in a remarkable fashion by a great army of patient, persistent, and unprejudiced workers, and the rich contributions which they have made to knowledge attest the fruitfulness of this method. In philosophy this wholly impartial attitude is even more difficult than in science, and few of us attain it. But so far as it is possible, every problem whether in philosophy or in science must be approached in the spirit of genuine scientific interest, whose motive is a keen desire to know, a real scientific curiosity.

The "suggestion"

The second step in philosophical method, after the preliminary observation of facts, is the proposed solution of the problem. This is what Dewey calls the "suggestion." It is also called the hypothesis or provisional theory. Oftentimes it comes as a flash of insight — a kind of intuition of the solution of the problem. It ranks in importance with the patient observation of facts which precedes and follows the suggestion. It may come after a preliminary observation of a few of the facts in the situation. It may come after years of laborious investigation, or after weary months of careful cataloguing of observations. It may even come at the very beginning of the investigation. It furnishes the clue to work from, and adds immense zest to the research. Our minds function in such a way that we have to have a theory to work on. The theory may be wrong and will have to be discarded when experiment and further observation have failed to verify it. But it *must* be verified when the nature of the problem makes verification possible; and where some kind of verification is not possible, research soon loses its interest. In verification the logical process involves deductive reasoning. We assume for the moment that our theory, our "guess," is true and we deduce its consequences, and then rigorously compare the implications of the theory with the actual facts. It is an *If – then* process of thought; *if* the theory is true, *then* such and such things would follow. Do these things square with the facts?

Midway between stations your motor car stops. You anx-

iously seek the cause. To find it is "the problem." Some one makes a "suggestion." Probably each member of the party makes one. The gas is out, a connection is broken, a piston has jammed, a feed-pipe is clogged. You take the most promising suggestion and try it out. "Trying it out" means deducing the consequences of the theory and comparing them with the facts. If not verified, you try another.

A physician is called to see a patient who is ill. To find the cause of the trouble or the character of the disease is his "problem." He makes a few preliminary observations of the facts, asks questions, tests pulse and temperature. Then a suggestion comes to him — typhoid fever. *If* it is typhoid, *then* certain hidden symptoms will be present. He makes these decisive tests and verifies his hypothesis, or disproves it.

This is the method of reflective thinking in our daily life; it is the method by which great discoveries have been made in science; it is a method which must commonly be used in philosophical inquiries.

But the question will present itself whether it is possible to use this method in philosophy. How can we apply it to the great life problems about God and the world and the soul? Is not verification the all-important part in the method, and is verification possible in these large world problems? Is not philosophy in danger of becoming speculative just because verification is impossible?

In answer to this I think we may say that the method in question is merely the method of reflective thinking, and no matter how stupendous our problems, we must reflect upon them. We do not mean that philosophical inquiry is limited to this method. We shall notice presently other ways of studying, such as logical analysis, analogy, and the historical method. But in that constructive part of philosophy in which you and I are most interested, after we have made full use of critical analysis and the study of the history of our subject, we must still continue to reflect upon it, and the success of our reflection will be in proportion as our observations are careful and impartial, our experience wide and varied, and our intuitions profound.

A very peculiar importance attaches to that part of scientific method which we call the *suggestion*, the flash of insight into the solution of the problem. This is where brains count — and experience. When our motor car stops, a lot of foolish suggestions may be made. Some one in the party will make the useful suggestion, and this person will be the *wise* one, and his wisdom will consist partly in his experience with motor cars and partly in — brains. The great discoveries in science and philosophy have been made by great men. Anybody can see an apple fall. A few may ask why it falls. Only the great brain of a Newton can project a theory of gravitation. Nowhere is the almost uncanny power of mind seen so clearly as in the recent investigations of physicists into the electrical nature of the atom, or the investigations of mathematicians into the theory of relativity. It is the creative power of thought, sometimes called the creative imagination. In its higher forms, it seems like a special endowment of genius — a kind of vision or inspiration. *Sagacity* is what James called it.

But the vision of truth does not come from sagacity alone; or, if it does, sagacity must include experience. The "wise" man in philosophy and science is not merely the "seer"; he is the man who knows, as well as the man who sees. The one who is quick to detect the trouble with your motor is the man who has had experience with motors and their ways. The great scientist is, to be sure, the great-brained man — but he is also usually the man versed in the whole lore and history of his science. So the great philosopher will be the man not only of deep insight, but a man of rich experience and profound knowledge of life.

Thus the method of philosophy is empirical. Our theories must spring out of experience and be tested by experience. A crucial test in the physical laboratory may not be possible, but in the laboratory of life the hypothesis must find its verification. The failures in the history of philosophy — and they have been many — have been partly due to the neglect of that close touch with life which is essential. A philosophical theory that comes into conflict with no accepted principles of science or philosophy, that is self-consistent, and that has been formed only after the

most careful and impartial analysis of all the factors involved and after the widest appeal to human experience, is to that extent verified. Its wide appeal, its satisfactory working, even the prestige which it may have because of the successful scientific achievements of its proponent, are all steps in the process of verification.

This method of reflective thinking, as we have just outlined it, is the method by which constructive work in philosophy is done. But perhaps the student will say; "I do not hope to do constructive work; I am only anxious to know about philosophy, to have my questions answered and my doubts resolved." But to study philosophy is to philosophize. In a lecture room in a certain American university there is a motto which says, *οὐ φιλοσοφία, ἀλλὰ φιλοσοφεῖν*, "not philosophy, but to philosophize." It is the thinking about the great questions of life that does us good, rather than the study of the thoughts of other men. But in any case, even if we are following another, we must identify ourselves with his thought — we must engage in reflective thinking.

Method of critical analysis

A preliminary task in the study of philosophy is the critical analysis of concepts. We have referred to this in a former chapter and it need only be mentioned here as a distinct method of the very greatest importance. It is wonderful how the light may be thrown upon many old controversies by the critical analysis of the terms and concepts used. In the old free-will controversy, for instance, much of the difficulty may be removed by critical analysis of the terms used. Even this method is by no means confined to philosophical problems. It would, of course, be used in any investigation which hoped for accuracy, although this part of the work might be called philosophical. But it often happens in the physical sciences that concepts are used in a sense adequate for the purpose in hand, but in need of a more thorough analysis when applied beyond the sphere of these sciences. Such, for instance, is the case with the notion of "cause," or "law of nature," "space," "time," and many others. Philosophy may undertake such an analysis.

Closely related to this method is the logical-analytical method proposed by Bertrand Russell as the sole method which philosophy should use, by which he hopes to rescue philosophy from its mysticism and evolutionism and reduce it to an exact science as rigorous as logic or mathematics. To this end he proposes to eliminate all question of values and meanings from philosophy, and all "the ambitious constructions of traditional metaphysics," and confine it to the logical analysis of facts of experience, those familiar things which are found upon analysis to be very complex, such, for instance, as our knowledge of the external world or the notion of cause. Russell has illustrated his method with striking results in the analysis of the things mentioned, as well as of the theory of continuity and the problem of infinity.[1] He admits that philosophy will thus "deal with somewhat dry and abstract matters, and must not hope to find an answer to the practical problems of life"; but there will be compensation for this in the new sense of power which this method gives us.

Important as the logical-analytical method is, I see no reason why philosophy should be confined to it. One of the "facts" which I suppose Russell would subject to logical analysis would be the *interest* which nearly all of us have in questions of value and meaning. It would be a somber philosophy which should limit itself to analyzing these desires, hardly compensated for by the mathematical beauty of the analysis. Possibly the human mind, if it can make true analyses, may also make true syntheses.

Deductive methods

When we survey the history of philosophy the question may arise whether the method of reflective thinking as described above has been the method actually used in philosophy. We shall probably find that methods more purely deductive have commonly been used. From Plato to the present, rationalistic methods, dialectic, logistic, the method of postulates, and the like, have abounded. Whether these methods would have yielded philosophical truth in greater measure had they included a wider appeal to *experience*, may well be asked. But in these

[1] See his *Scientific Method in Philosophy*.

philosophies the appeal is not to experience, but to logical consistency, or to intuition. New systems of geometry, based upon assumptions quite different from the older ones, give us by their freedom from contradiction a certain joy of power, such as belongs to the explorer. A somewhat similar fascination attaches to systems of dialectic like that of Hegel; but when all is done, the student of philosophy is tempted to say — To what end and for what good?

Not quite the same, perhaps, may be said of the deductive systems based neither upon experience nor upon mere postulates and assumptions, but upon *intuition*, whether we use the word *intuition* in the slightly mystical sense of Bergson, or in the severer Kantian sense of an original activity of the mind. May we not start in our philosophizing with that of which we are immediately *aware*, or primarily conscious? Is reality revealed to us in the bare act of thought? If we start with such intuitions and proceed in our philosophy by strictly logical methods, will any verification which comes from experiment or from experience add to the validity of our results? Or, even if we doubt whether the mind has any such immediate intuitions, is there nothing to be said for "the venture of faith"? And in the so-called normative sciences, such as ethics and æsthetics, may we not start outright with certain *ideals*, such as would not be strengthened by any appeal to experience? Certainly we are not justified in making any dogmatic answer to such questions as these. Some, of course, will doubt whether such intuitions, ventures of faith, or ideals will help us forward in philosophy unless in the last analysis they spring from life and experience.

The history of philosophy

Owing to the abstract and difficult character of philosophical inquiries, their study is usually approached historically. The history of philosophy is perhaps the best approach to the whole subject. No matter how large the problems are, we may at any rate quite modestly approach them by historical inquiry. We may *read* what Plato and Aristotle, what Descartes, Spinoza, Kant, and Royce have written about them. We may *associate*

for a while with the great men of the past. The history of philosophy is only the history of reflective thought on subjects peculiar to this study. The great philosophers have been among the great thinkers of the world, and their thought may for that reason be in the nature of visions. If one were to enumerate the philosophers from Democritus to William James, one would find that they have been men who have powerfully impressed themselves upon their own and subsequent times. Plato was a literary genius whose Dialogues have charmed readers of every age. Aristotle made great discoveries in logic and science and wrote profound works on ethics and politics. Descartes was the founder of analytical geometry, and the discoverer of important laws in physics and optics. Leibniz was a mathematical genius giving us the infinitesimal calculus. Francis Bacon was Lord Chancellor of England. Locke was an influential statesman in the reign of William and Mary, and one of the sources of modern educational ideas. Hume was probably the most profound thinker that Scotland has ever produced. Kant anticipated the nebular hypothesis. Herbert Spencer was a contributor to many branches of science, and one of the sources of evolutionary thought. James almost revolutionized the science of psychology. When men of this type speak on the profound questions of philosophy, they command our attention. In the end, however, we shall not be satisfied to rest in their opinions; we shall subject them to critical analysis and complete them by our own reflective thought.

Introduction to philosophy

Finally, there is a still more modest method of studying philosophy than that of its history. Preliminary even to this is the definition of terms and the mere statement and exposition of the various problems, with the mention of the different theories about them. It is to this preliminary task that the present book is devoted. We may define terms and explain theories and perhaps to some extent examine critically the concepts used. Possibly we may find that the divergence among the various systems of philosophy — a divergence much exploited by the critics — is not so great as it seems. This would seem to be the ideal

way to take up the study of philosophy: first, through an "Introduction," to get the terms, problems, and typical theories before us; second, through the study of the history of philosophy, to gain a knowledge of the opinions of its great men; third, to apply to all the problems the method of critical analysis and reflective thought.

In connection with this chapter read:

Irwin Edman, *Human Traits and Their Social Significance* (Houghton Mifflin Company), chap. XIV, "Science and Scientific Method."

Descartes, *Discourse on Method*, as found in the works of Descartes, or in Rand's *Modern Classical Philosophers* (Houghton Mifflin Company), pp. 101–16.

Further references:

John Dewey, *How We Think.* (D. C. Heath and Company.)

J. Arthur Thomson, *Introduction to Science* (Home University Library, Henry Holt and Company), chap. III.

Columbia Associates in Philosophy, *Introduction to Reflective Thinking.* (Houghton Mifflin Company.)

T. P. Nunn, *The Aim and Achievement of Scientific Method.* (The Macmillan Company.)

A. N. Whitehead, *The Organization of Thought* (Williams and Norgate), chap. VI.

Douglas Clyde Macintosh, *The Problem of Knowledge* (The Macmillan Company), chap. XX, "The Problem of Scientific Method."

Cassius J. Keyser, *The Human Worth of Rigorous Thinking* (Columbia University Press), chap. I.

Bertrand Russell, *Our Knowledge of the External World (Scientific Method in Philosophy).* (The Open Court Publishing Company.) See also his more concise chapter "On Scientific Method in Philosophy" in his *Mysticism and Logic* (Longmans, Green and Company), chap. VI.

CHAPTER V

SYNOPSIS OF SUBJECTS

In what order shall we pursue our philosophical inquiries and with which ones shall we begin? Will they group themselves into some definite plan, so that we can get a bird's-eye view of them at the beginning? When the little girl looked out the window and asked her mother how there came to be any world, I think she taught us where to begin. What is the world, how did it get started, and how has it grown to its present estate? The ancient Greeks, who first studied philosophy in a systematic way, began also with these questions. They called them *cosmological* inquiries.

Cosmological inquiries

We may, then, adopt this plan and begin with the study of Cosmology, inquiring first about the Cosmos, or the Universe, and about the nature of Space and Time. Then we may ask about the Earth and the first beginnings of Life upon its surface. Then will follow easily the study of the Evolution of life, and this will suggest the problem of its Purposiveness, if it have any. Then the question will arise whether the world is a created product, and, if so, who or what was its creator? Can we believe in God? If God exists and is good, how can we explain the presence of so much Evil everywhere?

Let us, then, call the above our first group of problems, and for convenience we may put them in tabular form:

I. Cosmological Inquiries	The Cosmos, Space, Time
	The Nature and Origin of Life
	The Philosophy of Evolution
	Is the World Purposive?
	The Problem of God
	The Problem of Evil — Pessimism

Ontological inquiries

Very early in the history of philosophy, thinkers began to ask

about the stuff the world is made of. Can everything in the universe be resolved into some elementary form of being, some ultimate reality, such, for instance, as matter, or energy, or mind? This is the ancient problem of Reality, or the problem of Being. The technical term for it is *Ontology*, from two Greek words meaning the science of being. It represents the search for the "First Principle." We love to reduce everything to some final unity or elementary "stuff"; and if we believe that we have found such a final unity, we call our theory of reality a *monistic* view, or just *Monism*, from a Greek word signifying alone or single. If now we believe that there is only one ultimate reality and that this reality is matter, we may call this view *Materialistic Monism*, or just *Materialism*. On the other hand, if we come to the conclusion that the one ultimate reality is not matter, but Mind, or Spirit, we may call this view *Spiritualistic Monism*, or *Spiritualism*. Sometimes it has been called *Idealism*.

But perhaps we shall not succeed in resolving the whole world into one elementary substance and shall find that in the very last analysis there are two ultimate forms of being, such as Mind and Matter. If so, we may call this theory *Dualism*, from the Latin word for two.

Or, finally, it is just possible that reality cannot be reduced even to two ultimate forms, but that there are more than two, possibly many. Then our theory of reality will be called *Pluralism*. These Ontological problems we shall find difficult to solve and the various answers not quite satisfactory; but men have always wondered about ultimate reality and we can at least study the various views of the philosophers. This second class of inquiries we may also put in tabular form.

II. Ontological Inquiries	Monism	Materialism Spiritualism or Idealism
	Dualism	
	Pluralism	

The philosophy of mind

Next will come a series of inquiries of the most urgent and in-

timate kind — inquiries about the Mind. We should like to know what the Mind is and whether it is different from the Soul, or the Spirit, and we are curious to know about Consciousness and Self and Personality, and how the Mind is related to the Body, and whether the old problem about the Freedom of the Will has been settled, and whether, finally, the Soul is, or can be, immortal.

All these would seem to be psychological inquiries, since they relate to the Psyche or Soul. But the study of the mind is of such immediate interest that it has become the subject of a special empirical science devoted to the investigation of mental processes and the term Psychology has been appropriated for this science. So in philosophy those larger and more ultimate questions which the science of psychology has not yet approached we may include under the general name, The Philosophy of Mind. In tabular form these inquiries will appear as follows:

III. The Philosophy of Mind
- The Search for the Soul
  - Historical
  - Reconstructive
- The Relation of Soul and Body
- The Freedom of the Will

The theory of Knowledge

Even before we reach this point in our philosophizing, we shall encounter so many difficulties and find our doubts so hard to resolve that we shall begin to wonder whether the human mind is capable of real knowledge and whether the best avenues of knowledge are through the sense organs or through some "faculty" of reason. So we shall be forced into the study of the Theory of Knowledge, or Epistemology, as it is called. Perhaps some readers will think that we should have begun with this — and that, no doubt, would be the logical order. But the Theory of Knowledge is a difficult subject, and if presented first might frighten us away from the study of philosophy — and I think that we may assume tentatively that the human mind does have the power of real knowledge, and that such real knowledge is offered us in the special sciences. In general, faith is better than skepticism as a

point of departure. Later we may ask about the sources and the validity of human knowledge. This inquiry will cover the following special subjects:

IV. The Theory of Knowledge or Epistemology
- The Sources of Knowledge — discussing the rival theories called Rationalism and Empiricism
- The Validity of Knowledge — as seen from the standpoint of Realism and Idealism
- Pragmatism — its theory of knowledge and of truth

The higher values of life

The topics mentioned above form the outline of the introduction to philosophy in its essential parts. But there are certain other subjects which are often taken up in philosophy, although they are more fully treated in special disciplines, such as Logic, Ethics, and Æsthetics, the so-called practical sciences studying the laws of thought and of conduct and of artistic expression and appreciation. These practical sciences are concerned with *Values*, or Ends to be gained, and are therefore quite different from the theoretical discussions about life and mind and the nature of reality, such as occupy us in the systematic study of philosophy. In the present book we must at least find time to examine in brief chapters a few of the fundamental principles in Ethics and Æsthetics, involving what we may call the higher values of life. So our fifth division will be as follows:

V. The Higher Values of Life
- Moral Values
- Æsthetic Values

The following table, combining these several groups of inquiries, will show at a glance the road we have to travel:

I. Cosmological Inquiries
- The Cosmos, Space, Time
- The Nature and Origin of Life
- The Philosophy of Evolution
- Is the World Purposive?
- The Problem of God
- The Problem of Evil — Pessimism

- **II. Ontological Inquiries**
  - Monism
    - Materialism
    - Spiritualism or Idealism
  - Dualism
  - Pluralism

- **III. The Philosophy of Mind**
  - The Search for the Soul
    - Historical
    - Reconstructive
  - The Relation of Soul and Body
  - The Freedom of the Will

- **IV. The Theory of Knowledge or Epistemology**
  - The Sources of Knowledge — discussing the rival theories called Rationalism and Empiricism
  - The Validity of Knowledge — as seen from the standpoint of Realism and Idealism
  - Pragmatism — its theory of knowledge and of truth

- **V. The Higher Values of Life**
  - Moral Values
  - Æsthetic Values

CHAPTER VI

THE COSMOS

By the word *Cosmos* we mean the Universe considered as an orderly whole, including the Earth, the Solar System, and the Stars. *Cosmos* is a Greek word suggesting the idea of an ordered whole. It is usually translated into English by the word *World*. The latter, however, has several meanings, referring sometimes to our Earth or Globe, sometimes to the whole of physical nature, sometimes to the Cosmos or Universe.

Our Universe

Here we first avail ourselves of all the rich knowledge which the special sciences have accumulated. From the science of astronomy we learn that the earth upon which we live is one of the smaller of the eight planets revolving around the Sun. And it is relatively near the Sun, for its distance of 93,000,000 miles seems little as compared with the distance of the outer planet, Neptune, which is about three thousand million miles distant from the Sun. Light comes from the Sun to the Earth in about eight minutes, but requires four and one half hours to travel from the Sun to Neptune.

The Sun and its eight planets and many asteroids and comets constitute our Solar System, being a little colony in that immensely larger group of stars which we may call *Our Universe*, but which astronomers call the *Galaxy*, or the *Galactic System*. This Universe has perhaps one to two thousand million stars, each one of which may be a sun like ours, and conceivably might have its own planets. Some of these other suns are immensely larger than ours. Among those that have been measured, one, Betelgeuse, the red giant, so conspicuous in the constellation Orion, has a diameter three hundred times greater than that of our Sun. The one or two thousand million stars constituting the Galaxy are not scattered through space, but are in a gigantic cluster,

shaped like a disc or watch-case, only not so flattened as the latter. Our Sun is somewhat off the center of this Universe and is moving with its planets through the other stars. But, although our Solar System is nearly six thousand million miles in diameter, the chance of its ever coming near any other solar system is not great, for the very nearest of the other stars — the fixed stars as we call them — is so far away that light, traveling 186,000 miles a second, requires more than four years to reach us. This is the star called Alpha Centauri.

Astronomers have estimated the total size of Our Universe and they think that its diameter is such that it would require fifty thousand years for light to travel across it, representing perhaps two hundred thousand trillion miles. Some, indeed, would multiply these numbers by five or six. But the inquiring human mind leaps beyond even these colossal distances and asks what is outside this total immense cluster of stars making up our Galactic System. Astronomers are not at present able to answer this question. It is certainly possible that in the remote depths of Space there may be other universes like ours. It has even been suggested that the spiral nebulæ which our instruments discern are such distant universes. "Our Solar System is one among countless others of the Milky Way; and perhaps the Milky Way is but one of countless giant nebulæ whirling in spiral form through a space that may be infinite." [1] But about the spiral nebulæ astronomers are not agreed and their meaning remains at present doubtful.

These fabulous distances do not affect us very much, but they suggest the great *emptiness* of Space, for even in our little compact Solar System we see how small is the size of the Sun and the planets as compared with their distances apart. And when we speak of the emptiness of the Universe, we are reminded of the emptiness of the atom, the unit of matter in our own surroundings; for we learn that the atomic units, the electrons, are supposed

[1] From an article by Archibald Henderson, "The Size of the Universe," in *Science*, September 7, 1923.

From the Harvard College Observatory there has recently been reported a group of stars and nebulæ, N.G.C. 6822, probably quite outside the Galactic System and at least a million light years away.

to be as far apart relatively to their size as are the Sun and the planets.

Space

Whether, therefore, we think of the emptiness of matter or the emptiness of the heavens, or whether we let our minds wander out to those distant nebulæ, the question, What is Space? forces itself upon us. From Aristotle to Einstein this space problem has puzzled both scientists and philosophers.

Commonly we think of Space as a great void, in which, however, bodies may exist and through which they move. We think of it as extending in all directions and as having no limits, hence infinite. The heavenly bodies move through it, and if they moved in a straight line could go on forever. Science sometimes speaks of it as filled with the ether. It seems to exist in three dimensions, right and left, up and down, forward and backward. It seems to be infinitely divisible, since any portion of it could be divided into two portions, and so on forever. Furthermore, Space, as we think, is not dependent upon the bodies in it and would continue to exist if all such bodies were destroyed, like a kind of immense receptacle or, shall we say, a great emptiness. Think of an empty box with six sides; then let the sides expand, move away into the distance and disappear. This is Space.

But when we begin to reflect upon the Space idea, all this seems less certain. We find that empirical Space — that is, the Space of our actual experience — is something quite different. To try to understand just what Space is, let us start with the simple facts of sensory experience. If I take a pair of compasses and touch the back of your hand, you get a perception of two steel points. But you get more than this: you get the perception of a certain relation between them, a relation which you call distance or position. There is evidently a unique kind of *relationship* between the two perceived points, and this relationship of distance or position is perceived just as much as the points themselves are perceived. If a silver dollar is placed upon the back of the hand, it is not perceived merely as something heavy and cold, it is perceived as something *spread out,* or *extended.* Likewise the sense of sight

gives us, besides color and light, the spread-out or extended quality of objects, their *voluminousness*. From our various senses, therefore, we get immediate perception of certain relations between objects, which we call *spatial relations*, and these seem to be of three classes, which we describe as right and left, up and down, forward and backward. Thus perceptual Space is said to have three dimensions.

It would be possible, of course, to say that the spread-outness of objects, their extensity, is not really any external reality at all, but a peculiarity of the mind, a special form of our sensibility. This view was held by the great philosopher, Kant, and in this opinion he has been followed by many other thinkers. Nevertheless, it is probably an incorrect view, and we may believe that not only are objects of experience real, but that Space itself is objectively real. But the reality of Space, when reduced to the final analysis, is found in a certain kind of relationship between bodies, namely, the relations of position, distance, and direction. The student of philosophy, therefore, who is confused by the strangeness of Space and the difficulty of understanding it, may think at first only of position, distance, and direction, and may consider Space as merely the name for all such relations as these; but he may think of these relations as real and, therefore, of Space as real.

Conceptual Space

Having thus considered Space as meaning the real objective position, distance, and direction of objects, we may now go a step further and distinguish another slightly different meaning of the word, as it is used in both philosophy and mathematics. Sometimes this is called conceptual Space, as distinguished from perceptual or sensational Space, as described above. We have been speaking of the Space which we perceive, but now the Space that we *think about* is a little different. The Space that we think about, conceptual Space, is not simply the perceived relations between objects; it is a kind of plan of all possible relations of this kind. We perceive the eight corners of the room in which we are working, and at the same time we perceive the relations

among these eight corners — and this is actual perceived Space. But now in imagination we think of other rooms above this, one upon another, and so we picture a world of ideal Space extending indefinitely in every direction. This is conceptual Space, and it seems to us like a void or receptacle; and it seems infinite in extent, which means nothing more than that we cannot think of any limit to these possible spatial relations. Conceptual Space thus appears to be a construction of the mind, and to lack that kind of reality which is possessed by the Space of our perception.

Mathematical Space

Now, it is this conceptual Space which is the Space of mathematics, only mathematicians ascribe to it certain qualities which even the conceptual Space of the plain man certainly does not have. Euclidean Space, for instance, is infinite, homogeneous, continuous, isotropic, and is in three dimensions, a conception resulting from the complete abstraction from the qualities of sensuous perception except in extension in three dimensions. Mathematics thus deals with ideal Space, which of course is based upon real or perceptual Space, but goes far beyond it. Mathematical Space is thus a construct, like the points, lines, and surfaces constituting the basis of the science of geometry. This does not mean that points, lines, and surfaces are fictions, or even purely mental things, or mental creations. They are real in their own way, but not as sensible particulars. When we say, therefore, as is now customary, that mathematics is not an existential science, but rests upon certain assumptions such as axioms and definitions, this statement is liable to be misinterpreted. The fact that geometry gives us results which fit the physical world in which we live reveals a closer connection with "reality" than might be inferred from its purely logical character.

Time

Now, there is another kind of relation existing in our experience than the relation of extension, which as we have seen gives us the experience of right and left, up and down, far and near.

We have also the experience of *before* and *after*, or *succession*. This we call *Time*. Suppose, again, that the two steel points of the compasses be placed upon your hand. You have, in addition to the touch and temperature sensations, the experience of extension. Suppose, now, that the same points be presently laid again upon precisely the same parts of the hand; you have now an additional experience of *after* or *later*. That peculiar kind of relation which we call *before* and *after*, or the relation of *succession*, is thus also a unique kind of experience, and to this we give the name *Time*. It is the relation, not of spatial coexistence, but of temporal succession, and has, not three dimensions like Space, but only one.

Time seems to flow on like a stream, and in this stream we distinguish three parts, which we call the *present*, the *past*, and the *future*, the present being real in experience, the past constructed in memory, and the future anticipated in imagination. The present, however, as James has shown, is not a "knife-edge," or instant; it actually has a certain duration. In this moment of duration there is, indeed, a before and after; but, for the most part, our before and after, our yesterday and to-morrow, are ideal constructions like conceptual Space. Conceptual Time, again, is a little different from perceptual Time. It is the abstract Time we think about. In this ideal Time the present is a knife-edge, having no duration, or zero duration — and the past and future stretch away to infinity.

Space-Time

Now, I fear that some of us will not be satisfied with this "empirical" description of Space and Time. The notion of an *absolute* Space, infinite in all directions, in which things exist and move, and the notion of an *absolute* Time which will go on forever and had no beginning, seems more natural and comforting. Indeed, Newton himself believed in such an absolute Space and Time, and only recently have they been questioned. It is probably what the words Space and Time mean to most of us, and certainly we have no right to say dogmatically that nothing corresponding to this meaning exists.

In fact, at the present time there is a whole school of investigators trying to find out what the reality is which in some way corresponds to conceptual Space and Time. Einstein in Germany, Eddington, S. Alexander, and C. D. Broad in England, and many other collaborators have begun peering into this obscure region of reality. And the interesting thing about these studies is that they are no longer pursued as psychological problems, but as problems in physics and mathematics. We are in search of the actual objective entity, which, so to speak, is the mother of Space and Time.

The first result of these profound and mathematically rather intricate researches has been to show that Space and Time are themselves more closely related to each other than we supposed. Or perhaps Space, Time, and Matter, all three, may have a common matrix. Even starting with our own experience, what we seem to have is not Space and Time as separate elements in experience, but rather four sets of relations, namely, up and down, right and left, forward and backward, and before and after. All events are space-events and all points in Space are point-events. It has been suggested, therefore, that the reality which we seek is neither Space nor Time but Space-Time; and that which really exists is not Space with three dimensions and Time with one, but Space-Time with four dimensions.

Now four-dimensional being is hard for us to understand, but mathematically it presents no serious difficulty. Take a lead pencil and lay it on a table. If we consider it as representing a line, it has one dimension, which we call near and far. Now, take a second pencil and lay it on the table at right angles to the first. We have now two dimensions, near and far, and right and left, determining a surface. Now, take a third pencil and place it at right angles to the other two. It will stand upright on the table. We have now three dimensions, determining a solid. Now, take a fourth pencil and try to place it at right angles to all the others. This we shall find impossible to do; nor can we think of such a figure. This is because the physical world in which we live, and to which our bodies belong, is the three-dimensional world of Space. But it does not follow from the fact that we can-

not picture a four-dimensional reality, or build it up with pencils, that such a reality may not exist.

Not only do mathematicians feel quite at home dealing with the fourth dimension, but even we ourselves find three dimensions insufficient as soon as we cease speaking of points in Space and begin speaking of *events* in Space. Such events require four dimensions to determine them. Suppose it is a case of an accident which happened in New York City. If I say it happened on Broadway (one dimension), you will ask where on Broadway. When I say that it happened at the corner of Broadway and Ninety-Sixth Street (two dimensions), you will ask whether it happened on the surface streets or in the Subway. When I say that it happened in the Subway at that intersection (three dimensions), you will ask *when* it happened. If I reply that it happened in the Subway at that intersection on Tuesday noon (four dimensions), then the event is fully determined.[1]

The theory that Time is the fourth dimension of Space, or more strictly that the world in which we live is a four-dimensional space-time continuum, was first proposed by Minkowski, but more fully elaborated by Einstein.

> The non-mathematician is seized by a mysterious shuddering when he hears of "four-dimensional" things, by a feeling not unlike that awakened by thoughts of the occult. And yet there is no more commonplace statement than that the world in which we live is a four-dimensional space-time continuum.[2]

Instead, therefore, of thinking of an "absolute" Newtonian Space of three dimensions, and an independent Time of one dimension, it is possible to think of an original "space-time manifold" of four dimensions, in which Time is the fourth dimension. At this point, however, Einstein's General Theory of Relativity passes beyond the mere solution of the problem of Space and Time and approaches a metaphysical theory of reality; for it supposes that the space-time continuum is, so to speak, the ultimate physical reality of the Universe. If this be true, it immediately

[1] Compare Edwin E. Slosson, *Easy Lessons in Einstein*, p. 31.

[2] Albert Einstein, *Relativity*, translated by Robert W. Lawson (Henry Holt and Company), p. 65.

becomes of great interest to the student of philosophy; for it appears that it can be shown mathematically that such a four-dimensional manifold under the relativity theory is not a homogeneous affair, but tends to inequalities, or "singularities," and, so it is said, *such singularities are what we call matter*. Matter, as it were, is a kind of kink in the time-space manifold, and where these kinks occur, Space is warped or distorted.

This makes it possible for Einstein to offer a wholly new theory of *Gravitation*, throwing new and needed light on this obscure subject. We remember that Newton formulated the *law* of Gravitation, telling us *how* all material bodies tend to move toward one another, the stone to the earth, and the earth to the sun; but he did not tell us *why* they behave in this way. We have usually thought of Gravitation as a kind of *force* "pulling" bodies together. But no one knows about any such force, nor how it could "pull" things together; hence it is of great interest to learn from Einstein and Eddington that it may be possible to explain Gravitation in a simpler way by the supposition that it is due to the nature of Space itself; that Space is distorted or puckered or curved in the region of masses of matter, and that the behavior of any particle when it enters this gravitational field is due, not to any mysterious "force," but to the puckered character of Space in such a field, which determines the path of the particle.

But we need not trouble ourselves further at present about Gravitation, but keep to our task of trying to understand something about Space and Time; and lest what we have said about them may appear confusing, let us state it again in a very simple way.

We *think* about Space and Time as being independent and absolute things, Space being a kind of infinite emptiness, like an immense box without sides, and Time a stream flowing eternally on. But we do not know that any such absolute Space and Time exist, for all we get in actual experience is just a set of relations, forward and back, right and left, up and down, before and after.

But, behold, just as we were giving up our belief in any *real* or absolute Space and Time, come eminent and profound mathema-

ticians and physicists, who tell us that there may be after all *something* which is real and objective, and, as it were, absolute; only that it is not either Space or Time, but a kind of union of them called Space-Time having four dimensions, of which time is the fourth.[1]

And then, finally, to add to the marvel, we are told that perhaps not only are Space and Time very much interwoven with each other, but Space, Time, and Matter are all parts or aspects of the same primeval reality, matter being, so to speak, spots or irregularities or hummocks or kinks in the space-time continuum. Later in this book we shall be studying theories of reality, and we shall find that one of these theories is called materialism, which teaches that matter is the ultimate reality and that mind is a function of matter. But already we begin to see how reality goes far beyond matter. Indeed, the theory of relativity seems to teach that Space, Time, and Matter are merely interesting or comprehensible aspects of reality, which the mind as it were seizes upon. The theory of relativity would appear to lead in the direction of an idealistic view of the world, at least according to the interpretation of Eddington and Carr.[2] More accurately, I think, it leads in the direction of a dualism, since there must be consciousness-reality intersecting the space-time reality along the time axis.[3] Otherwise the Universe would be wholly unillumined.

But Einstein and Eddington are not the only ones who have taught us recently that Space-Time is a kind of primeval reality, from which everything comes. A very interesting theory is that of S. Alexander,[4] which is different from that of Einstein and perhaps less difficult to understand. Space-Time is the fundamental reality of the world, the matrix stuff, from which grow or emerge all possible qualities. And, in particular, Time is the

[1] "The views of Time and Space, which I have set forth, have their foundation in experimental physics. Therein is their strength. Their tendency is revolutionary. From henceforth space in itself and time in itself sink to mere shadows, and only a kind of union of the two preserves an independent existence." — H. Minkowski, quoted by Eddington, *Space, Time, and Gravitation*, p. 30.

[2] See Eddington, *Space, Time,* and *Gravitation*, p. 200, and H. Wildon Carr, *The General Principle of Relativity*, pp. 161–62.

[3] See the article by T. B. Robertson, "Consciousness and the Sense of Time," *Scientific Monthly*, June, 1923.

[4] See his two books, *Space, Time, and Deity*, and *Spinoza and Time.*

principle of motion and change. Time is a kind of "cosmic *gendarme*," who says, "*Circulez, Messieurs.*" Time is to Space what mind is to body. It appears to be the moving cause of the world. "Soul is the source of movement." [1]

Perhaps this view will seem even stranger to us, the view, namely, that Space-Time is the ultimate stuff of the world and that furthermore Time is to Space what the mind is to the body. But I think that what Alexander means is that there is a fundamental duality in things, and that one face or part of this duality is the energizing, moving cause. If he had said that in the beginning was the World and in the World was the *world-soul*, which was its moving spirit, the thought would be much the same, but the language more familiar.

Bergson's theory of Time

Alexander's theory of Time reminds us somewhat of Bergson's view. Just as the word *Space* has a deeper significance to Alexander and to the Relativists, so the word *Time* has in the philosophy of Bergson a profound and peculiar meaning. Bergson prefers the word *Duration* — "*durée*" — and he means by it something else than clock-time, which is an outer measure of our experience of succession. Duration is of the very nature of reality itself, and this is almost synonymous with life, and life with consciousness. It is a kind of artificial world that science and intellect have to do with, a space-world of simultaneities and externalities. The world of deeper reality is that of change, of duration, of creative evolution, of the ceaselessly new and different, of endless heterogeneity. "Pure duration is the form which the succession of our conscious states assumes when our ego lets itself *live*, when it refrains from separating its present state from its former states." [2]

Now, it is very true that, when we separate pure duration from every notion of simultaneity, or before and after, and think of it as pure change, becoming, growth, it is almost synonymous with life and creative activity. Perhaps no richer notion has been in-

[1] See *Space, Time, and Deity*, vol. II, p. 48.
[2] Bergson, *Time and Free Will*, p. 100.

troduced into philosophy than this one of Bergson, the notion of pure duration. Yet it is not what you and I mean by Time, for in our experience Time is always spatial, as it were. It is measured duration. It suggests a picture of the present as compared with the past and future. Would it not simplify our philosophy to use the word *Time* in its ordinary meaning, and reserve for the larger notion some other word, such as *growth, progress, evolution, change?*

The Ether

It remains now to speak of that mysterious thing called the *Ether*, which fills Space; for we should like to know whether there is any such thing and, if so, just what it is. It has long been known that light travels through Space at a measurable rate of speed, namely, 186,000 miles a second. Since it did not seem possible that light is composed of particles which actually travel through Space at that rate, it was concluded that light was due to wave motion. We know how waves in water move on, although the drops of water move up and down.

When the undulatory theory of light came upon the scene, it was necessary to have some medium for the transmission of the waves, something to undulate. It was assumed, therefore, that the whole Universe is filled with a stationary medium called *Ether*, and that light waves were waves in this Ether. To serve its purpose such a medium must have certain qualities. It must be frictionless, it must be solid, it must be incompressible, it must be immovable, it must admit of strains and stresses. These attributes, however, involve some contradictions. Such a medium could hardly exist; and yet some such medium there must be.

When the electro-magnetic theory of light was proposed by Maxwell, a whole series of phenomena was unified. It was a great discovery to learn that light and heat and electrical phenomena and the infinitesimal X-rays and the long wireless rays were all alike, except in length, having the same rate of propagation and being subject to the same laws. But the Ether as a medium for all these waves was more indispensable than ever,

and yet the Ether itself was a bundle of contradictions. It was nothing but the substantive of the verb "to undulate"; and finally it has been said to have no qualities at all except extension in three dimensions, being thus equivalent to Space.

Some years ago Michelson and Morley carried out a celebrated experiment to determine whether the Earth is moving through a stationary medium, such as Ether. Since the Earth is moving about nineteen miles a second in its path around the Sun, if there is a stationary Ether through which it is ploughing, this would cause an ether wind, or ether drift, on the surface of the Earth. Since now, by hypothesis, light is caused by the wave motion of the Ether, it is evident that it would take longer to send a ray of light a given distance forward against this ether wind than it would to send it backward with it, just as it would take longer to send your voice against the wind than backward with it; and it would take longer to send a ray of light forward and back a given distance than it would to send it out at right angles to the line of flight the same distance and back.[1] The latter could be tested by means of a delicate instrument devised by Michelson and Morley, but the results were wholly negative. Light was found to travel in all directions at the same rate. At first sight these strange results would seem to disprove the existence of the Ether, but presently it was learned from the principle of relativity that even if there were an Ether, it would be impossible to detect our motion through it. So the problem remained unsolved. In general physicists are placing less and less emphasis upon the Ether and one hears less about it than formerly, but perhaps only because we hear more about Space than formerly. If we accept the undulatory theory of light, some interstellar medium there must be by which light comes to us from the distant stars; and when we study the material atom and discover that its constituent electrons are very far apart, we seem to need some medium of interaction between the parts. If Einstein and his fellow work-

[1] A swimmer knows that it is easier to swim across a stream of a given width having a current of a given velocity and back to his starting-point than to swim the same distance upstream and back to the point of starting, even though he has never tried to show the reason for this mathematically. See Eddington, *Space, Time, and Gravitation*, chap. I.

ers are able to dispense with the Ether, it is only because Space has taken its place.

The origin of the Earth

But we must return from these cosmical speculations to the Earth upon which we live; for we wish to study the course of evolution on our planet and the final appearance of man with his wonderful mind and his capacities for knowledge. Concerning the origin of the Earth and the other planets, there have been two theories, neither of which is now considered wholly satisfactory. The older theory, proposed first by Kant and elaborated by Laplace, is called the *Nebular Hypothesis*. In cosmic space the telescope and spectroscope reveal many nebulæ. These incandescent gaseous masses pass through regular stages of evolution. Cooling, they contract and throw off rings. These rings, again cooling, contracting, and breaking, form planets revolving around the central mass, as the mass itself originally revolved. Ultimately the gaseous center becomes the Sun, around which revolve the cooling planets. The Earth has advanced to such a stage that its stable crust and its separated earth and water make living forms possible. Both planets and central sun will ultimately become cold and dead, a single mass, a dark star. The theory may be further enlarged by supposing that in the course of æons of time this dark star will collide with some other heavenly body, reducing all again to the nebular form, when the process will be repeated. This theory encounters many serious difficulties.

According to the second, the *planetesimal hypothesis*, proposed by Chamberlin and Moulton of the University of Chicago, the original nebula is a spiral composed of innumerable small and cold bodies, called *planetesimals*, or minute planets, or meteorites. Really, therefore, our planets are "aggregations of meteoric dust," drawn together by gravity. The Earth was thus never hotter than it is now, but at first was small and has grown by drawing to itself the swarms of meteorites in surrounding space.

If this planetesimal theory is nearer to the truth, we need no longer be disturbed by gloomy pictures of the Earth becoming

cold and uninhabitable. Anatole France in his book called *Penguin Island* draws such a picture of a freezing globe. We see in imagination the last forlorn man shivering over a pile of dying embers and the disappearance, with him, of all life and hope. In view of our later knowledge, however, we may say, "Cheer up, it may never happen!" Our recent understanding of radio-activity has given us a new conception of the sources of energy in the Sun. If, as is now believed, there has been an approximately constant radiation of solar heat during hundreds of millions of years, we need not worry about the future. Cosmic disasters are no doubt "frequent" in the Galactic System, but our Sun with its family of planets seems to be moving in a very safe and uneventful region of Space.[1]

In connection with this chapter read:

Roy Wood Sellars, *Evolutionary Naturalism* (Open Court Publishing Company), chaps. v, vi.

Further references:

Joseph Alexander Leighton, *Man and the Cosmos* (D. Appleton and Company), chap. xviii.

S. Alexander, *Space, Time, and Deity* (The Macmillan Company), book i.

C. D. Broad, *Scientific Thought* (Harcourt, Brace and Company), especially chaps. i, ii, and xii.

Albert Einstein, *The Meaning of Relativity.* (Princeton University Press.)

A. S. Eddington, *Space, Time, and Gravitation.* An outline of the General Relativity Theory. (Cambridge University Press.) The most authoritative book in English on the subject.

J. Malcolm Bird, editor, *Einstein's Theories of Relativity and Gravitation.* A selection of material from essays submitted in the competition for the Eugene Higgins Prize of $5000. (Scientific American Publishing Company.)

A. N. Whitehead, *The Principle of Relativity with Applications to Physical Science* (Cambridge University Press), chap. ii, "The Relatedness of Nature."

Alfred Russel Wallace, *Man's Place in the Universe.* (Doubleday, Page and Company.)

H. Wildon Carr, *The General Principle of Relativity in Its Philosophical and Historical Aspects.* (The Macmillan Company.)

[1] Compare Dr. Harlow Shapley, *The Galactic System*, p. 21. Adapted from an address before the British Astronomical Association, May 31, 1922.

CHAPTER VII

THE NATURE AND ORIGIN OF LIFE

The origin of life

The origin of life on the Earth's surface has become a very interesting and serious question since the discovery that all living germs come from other living germs. The Roman poet, Lucretius, in his book, *De Rerum Natura*, solved the difficulty very easily, as did others of the ancients, by the theory of spontaneous generation. Clods of earth, he said, when warm and wet, soon bring forth living forms. In modern times, also, it was at first thought that spontaneous generation could be demonstrated in a test tube. If you take a little water from a pond and expose it to light and warmth, it will soon swarm with living things. If, now, you first sterilize it by the application of heat and again expose it to light and warmth, it will still after some time show evidences of life. If, however, you repeat the experiment, taking the precaution to close your test tube with a little wool cotton, so as to exclude the living germs which may be floating in the air, no life can be made to appear. So the controversy of the nineteenth century over spontaneous generation ended; and under the leadership of Pasteur a new and fruitful science was born, the science of bacteriology, with its wonderful contributions to our knowledge of germ diseases and to the arts of sanitation, aseptic surgery, and even agriculture.

Incidentally, we see again how results of great practical benefit flow from purely theoretical investigations. These investigators were not working in the interests of applied science, searching for new knowledge of disease and its cure. They were scientists, seeking knowledge for its own sake.

But now it is in the same mood of wonder and desire to know that we ask, Where, then, did the first living germs come from on our planet? Since there was a time when conditions were such on the Earth that no life was possible, while now its whole surface swarms with living beings, we wonder how the first living

germ arose. *Omne vivum ex ovo*, says the biologist — all life comes from an egg. Given, perhaps, one germ cell, through evolution we can people the Earth. But whence came the first one? If you have a hen, you can get an egg. If you have an egg, you can get a hen. But if you have neither, what will you do?

As regards the first appearance of living things upon the Earth, there are three traditional views: (1) The first germs of life may have come to the Earth from some other planet, traveling through space. (2) Life came to Earth by the creative act of the divine will. God created life upon the Earth. (3) Life arose upon the Earth by a natural process, being slowly evolved from inorganic matter.

Concerning the first of these three theories — theoretically it is not impossible that life should be transported through space from some other planet or star, either as ultra-microscopic living germs driven by light radiation, as was proposed by Arrhenius,[1] or hidden in the cleft of some meteorite dropped upon the Earth's surface. Eminent scientists have proposed this solution of the problem. But it does not really solve the problem; it merely transfers it to another world. And the view seems unnecessary.

The second proposal, that life is the result of a divine creative act, depends for its value on the way it is interpreted. Our impulse would be to think of God at some moment of time and some point in space issuing a decree or fiat, creating life. As thus interpreted, this solution of the problem would not appeal to scientists, who are accustomed to look for order and continuity in all the work of nature. If, however, we think of God as the creative agency, or the Creative Will, continually at work throughout nature, this view might commend itself as the best of the three.

The third theory, that of the gradual evolution of the organic from the inorganic, is the one generally accepted by biologists today. Although there is as yet no undisputed evidence of any generation of the organic from the inorganic, and although our laboratory experiments seem to indicate unequivocally that all

[1] See *The Life of the Universe*, by Svante Arrhenius. Translated into English by H. Borns, vol. II, chap. IX, pp. 250 ff.

life proceeds from previous life, yet it does not follow that conditions may not have been such at some time, or at some times, that life could arise from non-life. One cannot say that in the warm terrestrial waters millions of years ago the organic could not have been evolved by natural processes from the inorganic. We are almost compelled to believe that just this did happen. It may have happened once; it may possibly be taking place daily somewhere now.

It seems, then, that we cannot look for the origin of life either in interstellar migration, a divine creative act, or in spontaneous generation. It is more in accordance with the thought of the day to believe that life originated in some process of evolution, which means slow, orderly, progressive change. But when in the course of evolution some *novelty* appears, unique, decisively different, representing a higher level, showing new and hitherto unknown qualities, escaping perhaps from the mechanistic treadmill of the ages, it is legitimate to use the word *created.* By some kind of creative process, therefore, life came to Earth — let us say by *creative evolution.* We have to thank M. Bergson for this enlightening phrase. Every student should read his masterly book, *Creative Evolution.*

The nature of life

If, as we must believe, every form of life — plant, animal, man, with all that the latter term implies of the human mind, human history, human institutions, even art and science — has arisen by a process which we call evolution from very early and simple forms of life — say from unicellular organisms — it becomes of the utmost importance to the student of philosophy to understand not only the origin but the meaning of life itself.

The key to the problem of life is found in that magic word, organization. A living body is an *organism,* and the peculiar feature of a living organism is the possession of a group of unique properties, of which the two most conspicuous are *irritability* and *reproduction.* Living organisms are responsive to stimuli and they have the power of self-perpetuation. But organic bodies possess also other distinctive properties, such as growth by the

assimilation of food, adaptation and self-adjustment to the environment, self-maintenance, and self-protection.

The above properties are possessed by all living organisms, but when the organization proceeds further and we arrive at very complex and highly integrated living bodies, still other properties appear, such as sensibility, instinct, selective choice, memory, intelligence, and consciousness. To the sum of the first set of properties we may give the name *Life;* to the sum of all these properties we may give the names, *Life* and *Mind.*

The biologist and the psychologist, now, will be satisfied to study the behavior of these organisms and to describe, classify, and relate all their peculiar properties. But not so the student of philosophy. He must inquire more about the very nature of Life and Mind, how and why they arise, and whether they are new kinds of reality, or whether they are merely combinations of the simpler forms found in the inorganic world. In the latter we have atoms and molecules, and molecules are combined into numerous chemical compounds according to certain peculiar affinities. But how and why do the chemical compounds get "organized" into living bodies, and how do all those wonderful properties, such as reproduction and self-maintenance, arise? Is it due to some *vital principle* that has been *added* to inorganic compounds? Is life a kind of entity, which exists in addition to the atoms and molecules, or is it just a function of atoms and molecules, or is it a function of a certain *form* or *structure* which atoms and molecules take on?

It has been held many times in the history of philosophy that life is due to a vital principle, a special factor, which is to be distinguished sharply from all forms of mere matter and from all mechanical forces. The name *Vitalism* has been given to this view. Something like this was held by Aristotle and is held by eminent biologists at the present day. But on the other hand many thinkers in all the centuries and many biologists both of the past and of the present, strenuously deny the existence of any such thing as a vital principle, or special life force, and believe that life is due to the action of ordinary physical and chemical forces. To this view we usually give the name *Mecha-*

nism. It is closely related to that theory of the world which we have learned to know as Naturalism.

Mechanism

Mechanism stresses the purely mechanical character of all processes, organic as well as inorganic. In explaining life, whether of micro-organisms, plants, animals, or man, it is necessary to assume no other materials and no other forces than those exhibited in inorganic nature, as, for instance, in the movement of the spheres or the formation of rocks and soils or of chemical compounds. Physical and chemical laws are sufficient to account for all forms of life and perhaps even of mind. They can all be described in terms of matter and motion. They are all, in the last analysis, *movements of mass particles in space.* The so-called higher forms are distinguished by greater complexity of structure, but they involve no new materials and no new forces. The human body with its marvelous brain and nervous system, as well as the whole kingdom of plants and animals, can be analyzed into the same carbon, oxygen, hydrogen, nitrogen, calcium, and other chemical elements, as the soil, the rocks, and the water. Nor are any other forces at work in them than are present in the inorganic bodies. "A living organism is a complex system of physical-chemical mechanisms." Continuity prevails in nature from the simplest to the most complex forms. There is no sharp line of cleavage between the organic and the inorganic. In the chemically complex inorganic colloids we have an easy stepping-stone to the organic colloids and thence to higher forms of life.

It is not necessary, according to this view, to assume any mysterious vital forces to account for life, nor is it necessary to suppose that evolution is purposive or teleological. We should not gratuitously import into the processes of nature any mental concepts, or spiritual or psychic forces, or any notions of ends, purposes, or values. Thus the world scheme is immensely simplified.

History of Mechanism

Historically this world-view originated with Democritus in the fifth century B.C. It received encouragement through the work

of Copernicus, Galileo, Descartes, and Newton. It was amplified in Herbert Spencer's law of evolution, expressing the manner of the redistribution of matter and motion. It was immeasurably strengthened by Darwin's discovery of the law of natural selection, explaining the origin of new animal species. It found a vigorous defender in Huxley, in his *Physical Basis of Life.* In this century it was expounded by Professor Loeb, in his *Mechanistic Conception of Life.* It is the view adopted by many biologists at the present time, as a working hypothesis — by no means regarded as a final philosophy. In accordance with the law of parsimony,[1] they do not wish to assume other forces than physical and chemical ones, unless such other forces should prove to be necessary. It is a direct violation of this law, it is claimed, when the vitalists affirm the presence of a vital force to explain life, a procedure ridiculed by Molière, who compared it with the attempt to explain the sleep-producing effect of opium by the circular argument that opium possesses a "dormitive property." It is just this tendency to explain things by words that has been the bane of philosophy from the beginning. Goethe says:

> Denn eben wo Begriffe fehlen
> Da stellt ein Wort zur rechten Zeit sich ein.

Difficulties

At first sight the mechanistic explanation of life seems quite convincing. Certain rather serious objections have been urged against it, however, which we must now consider. If these objections seem to offer almost insuperable difficulties to the acceptance of a mechanistic interpretation of life, we must not hastily infer that a vitalistic interpretation will offer fewer difficulties. Possibly we may be able to get down below both of these theories and find some common ground for a reconciliation.

The first difficulty that we encounter is that when we try

[1] The law of parsimony was first formulated in the fourteenth century by the scholastic philosopher, William of Occam. The Latin form of the law reads: "*Entia non sunt multiplicanda præter necessitatem*" — Entities, principles, or forces should not be multiplied beyond necessity. This has been called Occam's razor, lopping off the heads of many unnecessary scholastic principles or hypotheses.

to explain life, growth, reproduction, mind, morals, society, and, indeed, the very fact of evolution itself, by means of a few concepts found useful in physical and chemical science, we are in danger of importing into these concepts a wealth of meaning which they do not have in their respective spheres.

The number of concepts which we find at our disposal from the physical sciences is very limited, while the realities to be explained are very intricate. The concepts which we have at hand are such as cause and effect (interpreted either as mechanical equivalence or as mere sequence), mass particles in motion, action and reaction, the reaction being quantitatively determined by the impact of material particles. Strictly it would seem that we cannot even speak of attraction and repulsion. These are figurative terms imported from the world of mind.

These mechanical concepts, now, seem a wholly inadequate equipment for the interpretation of the rich content of life. They are the concepts which we have found useful in describing the behavior of material bodies. It is not quite clear why we must be limited to these concepts in describing the phenomena of life and mind and society. It is not even clear how we shall explain or even describe the fact of evolution itself by means of them.

Herbert Spencer defines life as "the continuous adjustment of internal to external conditions." It seems difficult to explain life mechanistically on this definition; and whether this is a sufficient definition or not, the power of adjustment indubitably belongs to life. Life is self-adjusting, self-maintaining, self-preserving, and self-perpetuating. There is nothing like this in the mechanical world. Machines do not adjust, maintain, preserve, or perpetuate themselves. Mechanistic philosophers are very fond of considering certain concepts, such as matter, motion, energy, ether, electricity, as ultimate. They enable us to describe quantitatively many phenomena in the physical world. But there are certain other concepts, such as *life* and *mind* and *struggle* and *will* and *impulse* and *appetency* and *purpose* and *interest* and *value* and *creative evolution*, which are equally useful in explaining other great areas of existence, and apparently indis-

pensable in explaining them. It seems a little like dogmatism to say that we must not consider these, or some of them, as ultimate, but that we must reduce them to the other list of mechanistic concepts. The interests of parsimony should not cause us to neglect essential elementary principles, nor, if we wish to reduce the number of primary concepts, is it certain that we should sacrifice the vitalistic concepts rather than the mechanistic ones.

I think there is a marked tendency at the present time to question the assumption, so common at the close of the nineteenth century, that the concepts of physics and chemistry have any peculiar prerogative in explaining life and man and mind. Indeed, J. S. Haldane, the English physiologist, directly reverses this order.[1] "The idea of the physical universe," he says, "as a world of self-existent matter and energy is only a temporary working hypothesis by means of which we are able to introduce a certain amount of order and coherence into a large part of our experience." "This hypothesis breaks down in connection with the phenomena of life." "The phenomena of life involve another and radically different conception of reality." "The idea of life is nearer to reality than the ideas of matter and energy, and therefore the presupposition of ideal biology is that inorganic can ultimately be resolved into organic phenomena, and that the physical world is thus only the appearance of a deeper reality which is as yet hidden from our distinct vision, and can only be seen dimly with the eye of scientific faith." Haldane thinks that biological conceptions may soon be extended to the whole of nature.

J. Arthur Thomson believes that "the formulæ of physics and chemistry are inadequate for the re-description of the everyday bodily functions, or of behavior, or of development, or of evolution." They "do not suffice for answering the distinctively biological questions." In biology "we need new concepts — such as that of the organism as a historic being which has traded with time, and has enregistered within itself past experiences and ex-

[1] See especially his *Mechanism, Life, and Personality* (John Murray, London), pp. 101, 104, etc.

periments, and which has ever its conative bow bent towards the future." [1]

In fact, none of the unique qualities which distinguish living from non-living matter has been explained. We can only say that living things grow; they choose things suitable for food and reject other things; they adjust themselves to the environment; they are sensitive to stimuli; they protect themselves and reproduce themselves; but we have no explanation of these powers in terms simpler than the powers themselves. We have learned a good deal about the *manner* of reproduction and the *laws* of heredity. We can describe by means of Mendel's laws how certain characters, which we call unit characters or genes, are distributed in the offspring. We can discern through our powerful microscopes the minute divisions of the cell. We can count the chromosomes in the nucleus, and even the chromomeres, and can watch their division. We can make the supposition that there are separate "factors" or "genes" in the germ cell, which stand in definite relations to the several future parts of the organism. But transferring the mystery to very minute structures does not make the mystery any the less; we can watch the division of a cell into two cells, but we do not understand either why it divides or how the daughter cell inherits all the peculiar forms of the parent cell. "The study of the cell has on the whole seemed to widen rather than narrow the enormous gap that separates even the lowest forms of life from the inorganic world." [2]

But other serious difficulties with the mechanistic scheme confront us. One thing, for instance, which is not generally appreciated is that mechanism has at its disposal no *organizing* or *directive agency* which shall make the evolutionary process intelligible. Mechanism, at least in its extreme form, involves the explanation of living beings, from the simple speck of protoplasm to the complex human body, as due to the chance assemblage of mass particles in space. We could not even say that vital processes are due to the peculiar character of the motions of the mass

[1] *The System of Animate Nature* (Henry Holt and Company), vol. I, pp. 143–60.
[2] E. B. Wilson, *The Cell in Development and Inheritance*, p. 434.

particles, for all motions must conform to the usual mechanical laws. But the particles get into peculiar relationships, and these peculiar relationships constitute life, and these peculiar relationships or constellations of atoms and molecules are accidental. Life, therefore, is a mere incident, or, worse still, an accident, in cosmic evolution. Indeed, it would seem inconsistent even to use the phrase *cosmic evolution*, for the word *evolution* implies some orderly progressive change or unfolding. We should have to speak merely of cosmic change. It would not be consistent with the mechanistic conception to think of the world of organisms as an unfolding of something wrapped up or potentially present in the original matter or energy; neither would it be consistent to think of it as working or progressing either consciously or unconsciously toward any end, purpose, or goal. It would seem that the consistent mechanist must hold that the world of living forms has all come about by the accidental groupings of molecules of matter.

To this, to be sure, the mechanist may reply that, if we keep in mind the immensity of time and remember that every combination may be tried, those only surviving which are adapted to survive, the mystery of a mechanistic evolution becomes less than that of an animistic one. But here again we wonder how the mechanist can speak of adaptation in a purely mechanistic scheme. What is it that the useful combinations are adapted to and what are they useful for?

Life on other planets

It is interesting to trace out the implications of the mechanistic theory, so that if we accept it we may know what it is that we are accepting. One curious and hitherto unnoticed result appears from an article in *Science*, published in September, 1921. When we look up at the sky at night, we see thousands of stars. The telescope reveals millions more and the photographic plate shows a thousand million. These stars are suns, and we love to think that like our Sun they are surrounded, or will be surrounded, by planets, and that upon these planets there are or will be living forms, plants, animals, and perhaps intelligent beings. Our own

near neighbor, the planet Mars, is thought to have an atmosphere and possibly inhabitants.

But all this is a fable, or nearly a fable, for the chances that on any one globe there should ever happen that peculiar assemblage of elements and conditions which produce life are almost infinitely small.[1]

If this be the implication of the mechanistic theory, it certainly is not a very *interesting* prospect. A theory which compels us to believe that life and mind are limited to this little Earth in this mighty Universe seems rather cold and sterile. Perhaps, however, not all mechanistic philosophers would accept the necessity of this implication, or possibly they would say that if life and mind do not exist on other planets there may be other things there just as valuable. Few of us, however, will be able to accept this conclusion. Our belief in the uniformity and continuity of nature is so strong that some way would have to be found to escape this unwelcome conclusion, even if it involved a break in the mechanistic reasoning.

Indeed, the very opposite view is held by Benjamin Moore. "It was no fortuitous combination of chances," he says, "and no cosmic dust, which brought life to the womb of our ancient mother Earth in the far distant Palæozoic ages, but a well-regulated, orderly development, which comes to every mother earth in the Universe in the maturity of her creation when the conditions arrive within the suitable limits." [2]

A somewhat similar conclusion is drawn by Henderson, Professor of Chemistry in Harvard University, in two books which have been very much discussed.[3] Henderson's argument, which

[1] The article is by W. D. Matthew, of the American Museum of Natural History. The author is not using this argument at all against a mechanistic theory of the world. He is not discussing this subject. He says that, although conditions have been favorable for the creation of living matter on the Earth's surface perhaps for a thousand million years, life has come into existence only once or at most half a dozen times. Some immensely complex concatenation of circumstances took place so rare that it has occurred but once or a very few times in the æons of geological time. The chances, therefore, of its occurring in other worlds are accordingly remote. This theory, however, evidently rests upon the supposition that life is the result of the chance collocation of elements.

[2] *The Origin and Nature of Life* (Henry Holt and Company, Home University Library), p. 190.

[3] *The Fitness of the Environment*, and *The Order of Nature*, by Lawrence J. Henderson.

will be examined more fully in a later chapter when we are studying the question of purposiveness in nature, seems to show that, however we may explain the coming of life upon the Earth, it could not have been the result of chance, but of some deep pervading law or tendency, the character of which is unknown to us. The world, he thinks, is *biocentric*, centering about the production of life.

That the Universe is not only biocentric but anthropocentric is the remarkable theory held by the distinguished scientist, Alfred Russel Wallace. In 1903, Wallace published a very interesting book entitled *Man's Place in the Universe*. His conclusions in this book are so striking and unique that they would be given little credence, if they had come from any one else than this distinguished scholar. Wallace was at home not only in the whole field of biology, where he ranked with Darwin himself, but also in the fields of physical, astronomical, and geological science. His conclusions, based on a great range of evidence which cannot be reviewed here, are that no other planet in the solar system than the Earth is inhabited, or ever has been, or ever will be. The conditions on each of our other planets are such that there never has been and never can be any life development such as exists on the Earth. Furthermore, Wallace concludes that it is in the highest degree improbable that there are among the hundreds of millions of stars in the Universe any suns that have habitable planets — and this strange result is also based on astronomical evidence that seems rather convincing. That there may possibly be very simple forms of life on other planets need not necessarily be questioned; it is only that the conditions on other planets and on the planets of other suns are not such as could admit of any such development of life from the lower animal forms up to man as we have on the Earth. Neither does Wallace see anything unreasonable in the view that the Earth should be the one place in the Universe where that final consummation represented by man and his mind should be realized. The very position of the solar system near the center of our Universe is indeed one of the physical conditions for such a rôle. It is not inconceivable that "in order to produce a world that should be

precisely adapted in every detail for the orderly development of organic life culminating in man, such a vast and complex universe as that which is known to exist around us may have been absolutely required."

Certain of Wallace's arguments have lost some of their force since the discovery of the increased length of time, due to radio-activity, in which a body like our Sun may send forth light and heat; but it must be admitted that the remaining evidence is pretty strong. Curiously enough, however, so far from leading to a mechanistic interpretation of the world, as if life and man were mere accidents happening once on our insignificant planet, the result is interpreted by Wallace in precisely the opposite way, as if the very stars in the heavens exist that man and mind may be realized.

Many, I fear, will find it difficult to accept this view; but if we are unable to accept it, the mechanistic alternative, namely, that life is an accident that has happened rarely, or perhaps only once, is not the only alternative. Since science has recently shown that the radiant energy of suns may last through time which to our minds would seem almost infinite, Wallace's argument about the impossibility of a full development of life on the planets of other suns loses much of its force. In the light of the present theories of radio-activity, there may be sources of energy in even the smaller suns of our Universe such as may enable them to send forth light and heat for the hundreds of millions of years which are necessary for such a development of life as we have on the Earth. If this be true, there may be many other planets on which there is taking place an evolution of life similar to our own, culminating in the creation of rational and moral beings like man, who are not merely products of a creative evolution, but who can understand and appreciate it. To assume that every star in the heavens is the center of such a development is not necessary, of course; but on the other hand we are not justified in affirming that it may not take place in many other worlds than our own.

Is the Universe running down?

Another puzzling difficulty in the mechanistic philosophy is one which arises in connection with the second law of thermo-dynamics. According to the law in question, throughout the world of lifeless things there is a continual loss of available energy due to the fact that in all transformations of energy some of it becomes unavailable for doing further work by passing into the form of diffused heat and being radiated into space. We may transform the latent energy of our forests, our coal-beds, and our deposits of oil, into kinetic energy to drive our cars or carry our messages, but some of it is always lost in every energy transformation. The Universe must, therefore, be running down and tending to equilibrium. Even if untold stores of energy are locked up in the atoms and could possibly be utilized, nevertheless they will with fateful certainty be used up and the world must sometime come to a standstill. To make the matter worse, since we are not allowed to think of the beginning of the world — that is, of a creation — it must in infinite time long ago have run itself out and become dead and motionless. But it seems to be teeming with life and energy, to be very much "a going concern." Presumably, therefore, there must be some creative agency at work.[1]

Now, in the bodies of plants and animals there is at least a partial reversal of the downward movement in the inorganic world. In the metabolism of plants there is a synthetic process in which available energy is accumulated in the form of highly complex chemical compounds. In this way vast quantities of available energy have been stored up in our forests and coal-beds. Here, at any rate, we see a partial retardation in the loss of available energy going on in the inorganic world.

Of course in the case of man we have a further illustration of this retardation in the degradation of energy. The power of the human mind is effective in checking the downward movement of inorganic nature, as in the forestation of denuded areas,

[1] There are certainly no signs of running down in the stellar universe. Some scientists believe that there is a restoration of the atoms in space due to the action of radiant energy. See *Scientia*, I, II, 1923, art., "Cosmic Evolution."

and the reclamation of soils. From this point of view the temptation might be strong to think of cosmic mind as the creative agency which, it would appear, must be constantly at work throughout the Universe. At any rate, some creative agency apparently there must be.

The autonomy of life

We see how difficult it is to describe living processes in terms of matter and motion when we consider such striking facts as the restitution of function and the regeneration of lost parts in animal bodies. When one part of an organism is injured, another part having normally a different function may take over that of the injured part. In the case of the starfish, when one arm is cut off, the living organism successfully undertakes the restitution of the lost part, the living cells evidently assuming foreign duties. The animal has to meet an emergency to the end of self-preservation and proves equal to it. Of course, when we attempt to describe the behavior of the organism in such terms as "meeting an emergency," "adjusting itself to the environment," "to the end" of self-preservation, we are using terms drawn from human behavior. But the point is that these terms, and these terms *only*, do explain the behavior of living things. It is not a case of mechanical action and reaction, for the organism reacts in a way of its own, in a way to secure a desired end, in a way peculiarly fitted to bring itself into a "satisfied relation" to its environment. There is a fundamental difference here between the action of a living organism and that of inorganic matter. In the former we have something which we may call "behavior," where action is determined, not by mechanical forces acting from behind, but by an end to be achieved.

There are gaps, then, in mechanism; certain aspects of the living being, in the present state of science, appear to be unintelligible, i.e., irreducible to physico-chemical forces. What is it that shrinks from mechanical explanation in this way? It would seem to be a principle of finality, inherent, in spite of everything, in the most elementary vital phenomenon. The living being is reduced to protoplasm, whose function it is to react under the influence of external activities. In it, we say, spontaneity is nil, reaction is equal to action. But, it may be re-

marked, this reaction is not any kind of a reaction; it is incompletely characterized when defined from the sole standpoint of quantity, for it possesses the unexpected property of favouring not only the conservation, but also the development and propagation of the very individual that reacts. The exercise of irritability is expressed by losses; now, organic matter reacts exactly in such a way as to make good these losses. Besides, it reacts so as to adapt itself to environment, to make life possible for itself in the various conditions in which it happens to be placed. In short, by a process of reproduction, it ensures the perpetuity of the form it represents. It has frequently been said that life is essentially a vicious circle. The organ makes the function possible, and the function is the condition of the organ; muscular contraction accelerates the circulation of the blood, and the circulation of the blood keeps up muscular contraction. In every important physiological phenomenon we find the vicious circle. In the living being, then, there would appear to be an internal finality. The living being, regarded as an individual, makes use of that which is around it to ensure its own subsistence. The reflex action that characterizes it offers two aspects: the one, which concerns physics and chemistry; the other, which has no analogy in the objects of these sciences.[1]

Thus it comes about that the vocabulary of the mechanical sciences does not fit the behavior of living organisms. Life is autonomous, having its own laws and its own vocabulary. Life is insurgent, pressing with patient and never-tiring persistence into every nook and corner of the Earth's crust, into the depths of the seas, under thick antarctic ice, in hot springs, on mountain-tops, in arid plains. Life is struggle. It has this capacity — to persist and struggle with the environment, to adjust itself to conditions. It is the will to live, the continuous adjustment of internal to external conditions. "Tactics and strategy are its instruments." It is inventive, and, as Bergson says, "remains

[1] Émile Boutroux, *Natural Law in Science and Philosophy*. Translated by F. Rothwell. (Copyrighted by The Macmillan Company. Reprinted by permission), pp. 114, 115, 116.

Compare also the able discussion of this subject in W. E. Ritter's striking book, *The Unity of the Organism*, chapter XXI, especially pages 198 ff. Try, for instance, he says, to explain the scratch-reflex of the dog by means of the elementalist theory, by referring it to the physico-chemical elements at the basis of the act. Marshal them all together, but in the end you find that there is an element lacking. Something has intervened between the simple elements and the reflex — and that something is *the dog*. In other words, there is something else that is real than the material elements and the physical and chemical processes, namely, the organism itself, involving structure and organization and integration.

inventive even in its adaptations." Life is selective, seeking its appropriate food and rejecting that which it does not find fit.

Physico-chemical processes in the organism are only the *means* whereby the latter develops, and grows, and functions, and acts. In the analysis of these processes we see nothing but the reactions studied in physical chemistry; but whenever we consider the organism as a whole we seem to see a coördination, or a control or a direction of these physico-chemical processes. Nägeli has said that in the development of the embryo every cell acts as if it *knew* what every other cell were doing. There is a kind of autonomy in the developing embryo, or regenerating organism, such that the normal, typical form and structure comes into existence even when unforeseen interference with the usual course of development has been attempted: in this case the physico-chemical reactions which proceed in the normal train of events proceed in some other way, and the new direction is imposed on the developing embryo by the organization which we have to regard as inherent in it. This same direction and autonomy must be recognised in the behaviour of the adult organism as a whole.[1]

Vitalism

Is there now any way in which all these puzzling difficulties in the mechanistic theory of organic life may be met? Is the theory called "Vitalism" any better? Let us now consider this proposed solution of the problem.

Vitalism in its crudest form is the doctrine that life is due to a non-material force or entity called a "vital principle." This theory goes back to Aristotle, who thought of the soul as the vital principle, or the seat and source of life. Plants have a vegetative soul, animals have a vegetative and sensitive soul, while the soul of man is vegetative, sensitive, and rational. During the Middle Ages, following Aristotle, it was generally believed that there is a source of life quite distinct from matter, usually some psychical or spiritual principle.

Descartes, however, taught that plant and animal bodies are machines pure and simple, actuated only by material forces. The body of man is no exception to this rule; only in the case of man there is a spiritual soul, which acts upon the body. After

[1] James Johnstone, *The Philosophy of Biology* (Cambridge University Press), pp. 160–61.

Descartes it was easy to extend the principle of mechanism to man's whole personality, omitting the soul; and in scientific circles it became customary in many cases to ridicule the notion of a vital principle or any spiritual entity presiding in plant or animal bodies. This mechanistic attitude has become traditional in scientific circles, so that in biological laboratories at the present day it is no doubt considered good form to smile at the notion of a vital principle. Such a principle could not be subjected to any experimental tests and would not lend itself to scientific demonstration.

Under these circumstances, the recent revival of vitalism in scientific circles is significant. The leader in this "neo-vitalism" is Hans Driesch, a German biologist. Driesch, whose conclusions are based upon experimental evidence, is fully convinced that life cannot be explained on a mechanistic basis. To quote his own words, he says:

> No kind of causality based upon the constellations of single physical and chemical acts can account for organic individual development; this development is not to be explained by any hypothesis about configuration of physical and chemical agents. . . . Life, at least morphogenesis, is not a specialized arrangement of inorganic events; biology, therefore, is not applied physics and chemistry; life is something apart, and biology is an independent science.[1]

Driesch, further, believes that life is due to the presence of a non-material factor, to which he gives the name *Entelechy*, and sometimes the name *Psychoid*. The first of these terms is taken from Aristotle and means a perfecting principle; the second indicates the author's belief that the vital principle is mental in its nature. While many biologists — probably a large majority of them — regard the revival of vitalism as a recrudescence of mysticism, nevertheless, a surprising number of biologists, zoölogists, and paleontologists have adopted more or less fully the neo-vitalistic position.[2]

[1] Hans Driesch, *The Science and Philosophy of the Organism* (Gifford Lectures, 1908), p. 142.

[2] A valuable summary of the various views on this subject may be found in Vernon L. Kellogg's book, entitled *Darwinism To-Day*.

An able treatment from the vitalistic standpoint may be found in the book of James Johnstone, entitled *The Philosophy of Biology*, published by the Cambridge University Press.

We have already seen some of the difficulties in accounting for life on a strictly physical and chemical basis. But does it help the matter any to introduce a mysterious "vital principle"? Is it not merely saying that physical and chemical forces and materials do not explain the existence of life or the peculiar attributes of living things, and consequently we must introduce a vital principle? To this the mechanistic philosopher answers that such a principle does not permit of experimental determination and can have no value or standing in science.

If, however, the vitalist should take the position, as he sometimes does, that such peculiar qualities of living bodies as, for instance, adaptivity, can only be explained by the presence of a *mental* factor, his position would be somewhat stronger. Stated in this way vitalism is not so apt to raise the ire of the mechanist. Or, again, if the vitalist, instead of invoking a vital principle, prefers to speak of a vital energy, or biotic energy, which is to take its place on equal footing with the various mechanical energies, interacting with them, again the mechanist is not so seriously offended. Or, if the vitalist should say that vitalism means only this to him, that there is some organizing agency which does not in any way interfere with the mechanical interplay and conservation of the physical energies involved, still again the mechanist may offer no serious objection. It is as if one should observe a great body of men and horses at work upon the foundation of a building. Every movement of every muscle of man or horse can be explained mechanistically and perhaps accounted for in calories of food; yet the whole process cannot be explained apart from the directing intelligence of the architect and builder who may not appear at all on the scene.

Perhaps this last suggestion may open a way for the reconciliation of the long-standing differences between the mechanists and vitalists. For this new view there will be no better name than that of "Creative Evolution," although the view will be somewhat different from that of Bergson.

Creative Evolution

Let us say that the secret of living organisms is found in *organ-*

ization, in *structure*. Life is the outcome of the organization of non-living elements. Living bodies are highly organized, highly complex forms of simple inorganic elements. A living body contains no mysterious entity called a vital principle, or vegetative or sensitive soul. It is not a soul or vital spark in living organisms which causes life, or gives rise to the power of growth and reproduction. These properties are the outcome of organization and structure.

This seems thus far to be precisely the ground taken by the mechanists, and they will no doubt say that a solution thus begun seems hopeful. But, if the vitalists concede that the peculiar qualities of living things follow merely from the organization of material elements, the mechanists may concede that the organization itself does not take place apart from some organizing agency. It is probable that what most mechanists object to is the intrusion of some mystical vital entity into a living body and the assumption that such a vital entity is effective in producing vital phenomena, mixing or meddling, so to speak, with the regular physical and chemical forces. Perhaps they would not object to the necessity of some organizing agency, or source of energy, effective in organization. It is probable that many pronounced anti-vitalists would not insist that the constellation of inorganic elements in living bodies is the result of chance. Or, if they use the word "chance" at all, perhaps they would mean by it nothing more than that the causes of organization are unknown.

If, now, these two reasonable concessions could be made, then we should have the following situation: First, it would follow that organic evolution would proceed by the method of *creative synthesis*.[1] Creative synthesis means nothing more than that a synthesis takes place, and thereby new processes, powers, or activities appear — that is, are created. The *theory of levels* has thrown much light on the problems of life and mind. Elec-

[1] The phrase was first used by Wundt. Clear statements of the modern theory of creative synthesis and the theory of levels may be found in E. G. Spaulding's book, entitled *The New Rationalism*, p. 500 ff.; in R. W. Sellars's, *Evolutionary Naturalism*, chap. xv; and in C. Lloyd Morgan's *Emergent Evolution*.

trons are organized into atoms, atoms into molecules, molecules into cells, cells into living bodies, and at each new level of organization new qualities appear, which are in the nature of new creations, since they cannot be inferred by adding together the qualities of the elements which are organized. Oxygen and hydrogen are organized into a molecule of water, which possesses properties that do not belong to oxygen or hydrogen, and that could not be predicted from the completest knowledge of these two elements. Water will refresh the thirsty plant, and will freeze at a certain temperature. Not so the oxygen or hydrogen of which it is composed. There is something more in the water than oxygen and hydrogen; there is structure. A molecule of water is comparatively a simple structure, but other molecules, such as those of the colloids, are remarkably complex and possess remarkable qualities. Finally comes that wonderfully complex structure of complex molecules which we call living matter, and then there emerges a whole series of new qualities, such as growth, assimilation, irritability, adaptivity, and reproduction. These remarkable qualities are not the sum of any qualities belonging to the elements of which the structure is composed. Two plus two do not make four in this case. The new created qualities arise from the organization. We can hardly say that they are the *effect* of the union of molecules into organic bodies. The relation which we are accustomed to express by the words "cause and effect" does not quite apply here, unless we studiously eliminate from the cause-and-effect relation any notion of mechanical equivalence, such as we are always trying to bring in. It is perhaps better to say that the new qualities *emerge* from the organization.

What we see all the way up the ladder of evolution is *matter* taking on *form*, taking on structure and organization, and, as the outcome of these new forms, we see the creation of new and "strange" powers. At each new level of reality we have new powers and new capacities and new qualities. It is a flowering-out process, wholly different from the mechanical sequences which we see in the world of physics. New realities are born at each new level. *Life* is one of these realities. Later we shall

have to discuss the problem whether Mind is another such reality.

We seem justified, too, in thinking of this kind of creative evolution as issuing in new *values* at each level. *Life* is something intrinsically "better" than non-life. Should we be justified further in speaking of the world process as teleological, as if life and mind were *goals* which Nature is striving to achieve? In this metaphysical mood should we dare to go still further and think of the whole world movement as a great process of development, something after the manner of Hegel and Aristotle? And shall we think of it as a process of *realization* of higher values, such as human thought and consciousness and human society and coöperation and art and religion?

The answers to these questions are beyond us at present. Just now it is sufficient to note that life is a new kind of *reality*, not in the vitalistic sense of a kind of new factor intruding into physical bodies, but in the evolutionary sense of a new reality emerging from the organization of simpler elements into more complex and more highly integrated forms of being.

Instead, then, of seeking to interpolate a new agency — non-material and not perceptual — we express the fact that living is not explicable in terms of matter and motion by saying that all organisms — known to our senses as collocations of protoplasm — reveal new aspects of reality, transcending mechanical formulation.[1]

The creative agency

But now we must face the second of our two problems in Creative Evolution; that is, the organizing source or agency. We can perhaps think of atoms and molecules getting into piles or bundles by chance encounters. In this way Democritus tried to explain the beginnings of things, but even he evidently assumed some gravitational forces bringing atoms into clusters or nuclei. But to account for an *organism* is quite another thing. What we seem to need is some kind of force just the opposite of those gravitational or mechanical forces which tend to bring the world to an equilibrium. We need some form of creative energy to lift

[1] J. Arthur Thomson, *The System of Animate Nature*, vol. I, p. 168.

the world to higher levels, or if we wish to retain the word "energy" for its usual meaning in physics, we may say that we seem to need some *power* to direct and integrate our physical energies — to *marshal* them into order, so to speak. We are accustomed to think of atoms and electrons and physical energies as being elemental forms of being, but is the power of directing and coördinating energies any less elemental? [1]

In the next chapter we shall see how little of our real world evolution explains and how much in need of explanation is evolution itself. To explain evolution, to explain creative synthesis, to explain organization all the way up the ladder, to explain life, perhaps even to explain matter, we seem to need to make the postulate of some creative energy. As Professor Moore says, "traces of evidence are lately beginning to come into view, which are highly suggestive of continuous present-day creation of matter at the inorganic level, and of creation of life from inorganic materials at the organic level." [2]

Such a creative agency has, of course, been postulated in every religious system of the world and in most of the philosophical systems; but here we are trying to work out the problem from the biological point of view. What does the biologist say about creative agency? It is not likely that he will any longer object to the use of the word "creative" on account of its theological associations, since it has now been given good standing by such writers as Bergson, Wundt, Benjamin Moore, William Patten, and many others. But if he does, what will he say about an organizing power or agency? Probably many biologists will simply say that this subject belongs to metaphysics and is outside the sphere of strict science. But there is no such sharp demarca-

[1] "If the argument of this book is sound, then the problem of the origin of life, as it is usually stated, is only a pseudo-problem; we may as usefully discuss the origin of the second law of thermo-dynamics! If life is not only energy, but also the direction and coördination of energies; if it is a tendency of the same order, but of a different direction, from the tendency of inorganic processes, all that biology can usefully do is to inquire into the manner in which this tendency is manifested in material things and energy-transformations. But the tendency itself is something elemental." — James Johnstone, *The Philosophy of Biology* (Cambridge University Press), pp. 340–41.

[2] *The Origin and Nature of Life* (Henry Holt and Company, Home University Library), p. 31.

tion nowadays between philosophy and science. They are getting to be one in purpose and interest. The biologist is becoming more and more a philosopher, and the philosopher a biologist, and as for the creative agency, or organizing principle, the biologist must either find a way to get along without it, or at least wonder what it is.

At first sight it seems to be the old philosophical problem of *the moving cause*. In the Hebrew philosophy we read, "In the beginning God created the heaven and the earth." In Aristotle, it is the *Primum Mobile*, or *First Mover*, or *God*. In Plato, it is the *Demiurgus*, or *World-Builder*. In Anaxagoras, it is *Nous*, or *Mind*. And so we could go through the history of philosophy, recalling the *Natura Naturans* of Bruno and Spinoza, the *Absolute Idea* of Hegel, the *Absolute Ego* of Fichte, the *Pure Creative Energy* of Schelling, the *Absolute Will* of Schopenhauer, the *Will to Power* of Nietzsche, the *Unconscious Will* of von Hartmann, the *World Soul* of Fechner, the *Universal Will* of Wundt, the *Unknowable* of Spencer, the *Power that Makes for Righteousness* of Matthew Arnold, the *Absolute Self* of modern idealists, and simply *God* in many and many philosophies.

But in these *philosophical* answers to the question we are not now interested. We want a *biological* answer. Is there from the biological point of view any initial *agency* which may serve to explain the constructive work of nature and which we may think of as the cause of those structures whose functional activity is life? Does biology recognize to-day any "internal perfecting principle," such as Aristotle believed in, any "life force," such as that repeatedly referred to by Bernard Shaw, any "inherent growth force," such as Goethe believed in, or anything like the "psychoid" or "entelechy" of Driesch?

I think we must answer that such agencies are very commonly recognized in biology. In some cases, as in the work of Driesch and his fellow vitalists, they are non-mechanical agencies lying quite outside the region of physical and chemical forces. Sometimes, and more commonly, they take the form merely of a *conative principle* operating within the sphere of organic life, such for instance as Darwin's "struggle for existence," Nägeli's "internal

factor tending towards perfection,"[1] or Geddes and Thomson's "originative impulse."[2] The "struggle for freedom" is what it is called by Albert P. Mathews. The tree of life, he says, is "psycho-tropic," tending upwards toward mind. In the primeval slime from which all life has proceeded there is a *capacity* which the mechanistic philosophy has overlooked. It is the capacity of struggling against the environment. This is the very essence of life. Life is struggle.

> While the fact of evolution has been established . . . there still remains unexplained, or not adequately explained, the great onward rolling tide of life, which bears man riding like Neptune on its crest. . . . Considered as a process rather than as a road, evolution is the struggle of life with its environment, a struggle for freedom, leading to the triumph of the mind and the winning of individuality; it is the struggle of the spirit within us to be superior to matter, to escape the trammels of matter, to secure a fuller individual life and a larger freedom.[3]

John Burroughs thinks that we have to assume in the organic world something which he calls an organizing principle. "Natural selection," he says, "is not a creative, but a purely mechanical process." "Chance, or chance selection, works alike in the organic and the inorganic realms, but it develops no new forms in the inorganic, because there is no principle of development, no organizing push. But in organized matter there is, in and behind all this organizing, a developing principle or tendency; the living force is striving toward other forms; in other words, development occurs because there is something to develop. An acorn develops, but a quartz pebble only changes."[4]

Again we hear of a special force or energy, comparable with other recognized forms of energy, such, for instance, as the "biotic energy" accepted by Benjamin Moore,[5] or J. M.

[1] His *Vervollkommnungsprinzip.*

[2] We feel compelled to recognize the persistence of some originative impulse within the organism, which expresses itself in variation and mutation and in all kinds of creative effort and endeavor. — *Evolution*, Home University Library, p. 202.

[3] Albert P. Mathews, "The Road of Evolution," *Yale Review*, January, 1922, pp. 340, 344, and 346.

[4] John Burroughs, *Accepting the Universe*, p. 209.

[5] Some term is obviously required applicable to the entirely peculiar set of energy phenomena witnessed in living matter, such as *biotic energy*. . . . The

Macfarlane,[1] or the "mitokinetic force" of Marcus Hartog.[2]

Sometimes again the agency in question is thought of as some cosmic impulse more fundamental even than life itself. The "creative agency" that Patten tells us about seems somewhat like the vital impetus of Bergson. There is in nature, he says, an abiding compulsion

> which is cumulative, or progressive, producing that increasing architectural organization that we call nature-growth, or evolution. . . . Progressive union and stability, progressive coöperation, organization, service and discipline are, therefore, inherent properties of life and matter. . . . The ceaseless flow of creative services is evolution, and evolution is serial creation. . . . In this broader concept of nature-growth, light and gravity, vitality, genes, and gemules, heredity, intelligence, 'selection,' social conduct, and all the rest of the growth-machinery of life portrayed by the physicists and biologists may be regarded merely as local, or special manifestation of a common creative agency.[3]

With Bergson, the *élan vital* is a primordial world-principle, the basic reality of all being, the source and ground of evolution, a vital impulse, or push, or creative ground, pervading matter, insinuating itself in it, overcoming its inertia and its resistance, determining the direction of evolution as well as evolution itself. This ever-changing, expanding, free activity is life itself. The earliest animate forms, tiny masses of protoplasm, were possessed of a tremendous internal push, "that was to raise them even to the highest forms of life." The evolution of life is a creation that goes on forever in virtue of an initial movement.

position which denies the existence of a form of energy characteristic of life is one of peculiar absurdity even for the pure mechanician, which can only be explained as a natural reaction from the entirely different mediæval conception of a vital force which worked impossible miracles." — *The Origin and Nature of Life*, pp. 225 and 226.

[1] Macfarlane believes that it is impossible to account for life and mind and evolution unless we assume in addition to the usual and well-known physical forms of energy, such as thermic, chemic, electric energy, also other special forms of energy, which we call biotic, cognitic, and cogitic energies. — John Muirhead Macfarlane, *The Causes and Course of Organic Evolution*. See especially chaps. IV, V, and VI.

[2] Hartog believes that life can be explained only by the presence of a new force in organisms distinct from any other known physical force. This new force he calls Mitokinetism. — *Problems of Life and Reproduction*, chap. IV.

[3] William Patten, *The Grand Strategy of Evolution* (R. G. Badger), pp. xii, 28, 29, 47.

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Whether we will or no, we must appeal to some inner directing principle in order to account for this convergence of effects. Such convergence does not appear possible in the Darwinian, and especially the neo-Darwinian, theory of insensible accidental variations, nor in the hypothesis of sudden accidental variation, nor even in the theory that assigns definite directions to the evolution of the various organs by a kind of mechanical composition of the external with the internal forces.[1]

There have been few attempts to determine more exactly the nature of this evolutionary urge, this inner directing force, this primordial direction and coördination of energies. It is, at any rate, quite outside the mechanistic field and seems to be a kind of creative power, which directs the physical forces, marshaling them into order. But this does not mean, as I understand it, that it is an agency working from without, from some disparate order of being or any kind of "alien influx into nature." Of course it is easy for us to interpret this organizing agency as Mind. It is perhaps too easy for us to do so, reading back into nature, as the power which makes things go, that which makes them go in our little human world. And yet Hobhouse says, in the preface to the second edition of his important work on *Mind in Evolution*, that he has been led to "raise the question whether mind (in the infinitely varied form of its activity, from the groping of unconscious effort to the full clearness of conscious purpose) may not be the essential driving force in all evolutionary change."

C. Lloyd Morgan, in his recent book entitled *Emergent Evolution*, says we must acknowledge an original *Activity* which is the *nisus* or urge making actual the whole evolutionary movement. In many passages in this book he interprets this activity as mind or spirit, but he prefers to call it simply God, and even suggests that it acts from above as a *drawing* force.

Within us, if anywhere, we must feel the urge, or however it be named, which shall afford the basis upon which acknowledgment of Activity is founded. What then does it feel like? Each must answer for himself, fully realising that he may misinterpret the evidence. Without denying a felt push from the lower levels of one's being — a so-called driving force welling up from below — to me it feels like a

[1] Henri Bergson, *Creative Evolution* (Henry Holt and Company), p. 76.

drawing upwards through Activity existent at a higher level than that to which I have attained.[1]

In a somewhat similar strain, A. S. Eddington, at the end of his chapter "On the Nature of Things" closing his striking book on *Space, Time, and Gravitation,* comes to the conclusion that something of the nature of consciousness forms the essential content of the world.

> The theory of relativity has passed in review the whole subject-matter of physics. It has unified the great laws, which by the precision of their formulation and the exactness of their application have won the proud place in human knowledge which physical science holds to-day. And yet, in regard to the nature of things, this knowledge is only an empty shell — a form of symbols. It is knowledge of structural form, and not knowledge of content. All through the physical world runs that unknown content, which must surely be the stuff of our consciousness. Here is a hint of aspects deep within the world of physics, and yet unattainable by the methods of physics. And, moreover, we have found that where science has progressed the farthest, the mind has but regained from nature that which the mind has put into nature.
>
> We have found a strange foot-print on the shores of the unknown. We have devised profound theories, one after another, to account for its origin. At last, we have succeeded in reconstructing the creature that made the foot-print. And lo! it is our own.[2]

In conclusion, what shall we say in answer to this difficult question concerning the origin and nature of life? The problem itself is momentous, for if we can find the key to the mystery of the origin and the nature of the first living cell, we shall perhaps have found the key to the whole "grand strategy of evolution," which has culminated in human life and human consciousness and human history. Both the current theories of life, that of Mechanism and that of Vitalism, we have found to be disappointing. With our present light on this hardest of problems, the view I have outlined as that of Creative Evolution seems more promising. There is no sharp line of cleavage between the organic and the inorganic. There are no new *materials* and per-

[1] C. Lloyd Morgan, F.R.S., *Emergent Evolution* (Henry Holt and Company), p. 208.

[2] *Space, Time, and Gravitation* (Cambridge University Press), pp. 200–01.

haps no new *forces* at work in the living cell. But there are grand new powers, new capacities, new qualities, and new *values*, which emerge from this fateful step upward in creative evolution. Perhaps we may think of nature as a whole as a process of serial creation, of which the momentous outcome was to be, first, Life — then Mind, Consciousness, Society, History, Art, Literature, Science, Philosophy, and Religion.

All these may be conceived to be the ever-towering successive *achievements* of the whole evolutionary movement. But back of it all there must be the organizing agency, the primordial impulse, the Creative Will. The mere stuff, the crude materials, the elements which are marshaled into place by this Creative Power — the atoms, physical energies, centers of stress and strain in the ether, space-time, point-event, or what not — all these are less important. The structure and the form are the significant realities and the *vision*, if such there were, that saw them.

In connection with this chapter read:

Benjamin Moore, *The Origin and Nature of Life* (Home University Library, Henry Holt and Company), chaps. I, VII, VIII.

Further references:

J. S. Haldane, *Mechanism, Life, and Personality.* (John Murray.)

Jacques Loeb, *The Mechanistic Conception of Life.* (The University of Chicago Press.)

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Joseph Alexander Leighton, *Man and the Cosmos* (D. Appleton and Company), chaps. XX, XXI.

Roy Wood Sellars, *Evolutionary Naturalism* (Open Court Publishing Company), chap. XV.

J. Arthur Thomson, *The System of Animate Nature* (Henry Holt and Company), vol. I, Lectures II to V.

John Burroughs, *Accepting the Universe* (Houghton Mifflin Company), chap. XIII.

Vernon L. Kellogg, *Darwinism To-Day* (Henry Holt and Company), chap. VIII.

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CHAPTER VIII

THE PHILOSOPHY OF EVOLUTION

Most people give scientific men credit for much greater knowledge than they possess in these matters; and many educated readers will, I feel sure, be surprised to find that even such apparently simple phenomena as the rise of the sap in trees are not yet completely explained. As to the deeper problems of life, and growth, and reproduction, though our physiologists have learned an infinite amount of curious or instructive facts, they can give us no intelligible explanation of them. — Alfred Russel Wallace, *Man's Place in the Universe* (Doubleday, Page and Company), p. 203.

There is a mystic word which captured the scientific thought of the nineteenth century and still now enchants us in the twentieth century — *evolution.* What interest has the student of philosophy in evolution? That the world is in a constant process of change is evident enough. Society changes, customs change, our environment changes, races and animal species change, the Earth's surface changes, star clusters change. As Heraclitus said in the beginning of Greek philosophy, everything moves and changes. *That it changes in a gradual, orderly, and progressive manner is the doctrine of evolution.* There would certainly appear to be nothing very *revolutionary* about *evolutionary* philosophy. It is what we should expect. Since philosophy is an attempt to understand the world, our interest in evolution will depend upon the extent to which it adds to such understanding. It will be our purpose, then, in this chapter to see to what extent the doctrine of evolution will help us to understand the world.

General theory of development

When we use the word "evolution," we usually have in mind organic evolution, or the theory that animal species are descended from other animal species, and that all species of plants and animals have a common ancestry; and we usually attribute this theory to Darwin. There are several errors in this popular conception. Evolution is a broader term than organic evolution, and refers to the general theory of development by orderly,

progressive changes. By progressive changes we usually mean changes in the direction of greater complexity and a higher degree of organization. In this wider sense we may speak of the evolution of stellar systems, or the evolution of the Earth's surface, or societal evolution, as well as of organic life. It is now believed that even our chemical elements have evolved from something simpler.

Organic evolution, on the other hand, refers to the development of living forms from simpler living forms and ultimately from the simplest micro-organisms. It teaches that all forms of living matter, all plant and animal species, and all races of mankind are descended by gradual changes from the first primordial living germs. The theory of organic evolution was proposed long before Darwin's time and is not synonymous with Darwinism. Darwinism is a theory or set of theories subordinate to the general doctrine of organic evolution and serving to explain the method of such evolution. While the evidences for organic evolution are now complete, the evidences for Darwin's theory are not so complete. The following table will represent the relationship of the different kinds of evolution:

Evolution
- Cosmic or General Evolution
- Organic Evolution
  - Darwinism
  - Lamarckism and other theories

Evolution and religion

When the doctrine of organic evolution was brought prominently before the world by Darwin in the middle of the last century, two misconceptions arose, which in our own time have been largely corrected. The first was that there is some kind of *conflict* between evolution and religion, and the second was that evolution has explained the world. As regards the first, we have come to learn that the religious attitude has been greatly strengthened by the enlarged vision which evolution has brought us. We have become accustomed now to the idea of development, and we understand its immeasurable superiority over the old spasmodic theory of creation. We see evolution everywhere

about us — in nature, in society, in the mechanic arts. Even the youngest of us has witnessed the evolution of the automobile from its crude beginnings not many years ago. Our pride and admiration in the latest smoothly perfect product is not lessened by the fact of its gradual development; neither is our admiration of man lessened by his history of growth and struggle, as he has fought his way upward from lower animate forms, overcoming every obstacle.

Perhaps much of the unhappy and needless antagonism in the last century to the theories of evolution could have been avoided, if Darwin had spoken, not of the *descent* of man, but of his *ascent*. It all looks quite different when we think of man as the crowning masterpiece of Nature's evolutionary methods, when we think of man's creation as a divine achievement, when we think that God has labored through the ages to perfect him. The theory of evolution lends at once a new charm to the world, if we think of it as a process of realization, as the progressive creation of higher and higher values.

In Watson's beautiful poem, *The Dream of Man*, man, undaunted by the picture of his humble origin, says:

> This is my loftiest greatness
> To have been born so low.
> Greater than Thou the ungrowing
> Am I that forever grow.
> . . . . . .
> From glory to rise unto glory
> Is mine, who have risen from gloom.
> I doubt if Thou knew'st at my making
> How near to Thy throne I should climb,
> O'er the mountainous slopes of the ages
> And the conquered peaks of time.

It would be hard to exaggerate the extent to which the evolutionary or genetic method of study has enriched every department of knowledge. Evolution has given us a new method, the genetic method, by which we learn to understand things by studying their growth and development. Every science is now studied genetically, and we have come to understand that no branch of human knowledge can be understood apart from the

knowledge of the way the subject-matter of that science has grown or developed. It is safe to say that both ethics and religion have participated richly in this new method and that both these subjects have been immeasurably clarified.

Evolution as a method only

The other misunderstanding that arose about evolution was almost the opposite of the first. It was that evolution had explained the world, including man and his mind, and that no other philosophy or religion was necessary. This curious error probably came about because of a confusion between evolution as a method or law of change, and evolution as a force or power. There is a popular belief that evolution is a kind of creative force, something that can do things. On the contrary, it is a mere description of nature's method. We see in evolution that Nature behaves in a certain uniform way, or, if you choose, that God creates by a certain uniform method. The student of philosophy, who has already learned that natural laws are not forces nor powers, but merely observed uniformities, is not likely to fall into the mistake of making a God of evolution.

One of the surprises for us in the study of evolution is the discovery of how little of the world it has explained. It has given us a valuable method of study, by which we are able to understand the meaning of many forms and functions in relation to their historical setting; but on the deeper problems of life and mind it has thrown little light. We soon discover great gaps in its story of life, which we supposed, of course, had long since been bridged by science, but which we now find have not been bridged at all. We find that evolution has not explained what life is or how it began, nor how it reproduces itself, nor how growth and assimilation take place, nor why there is a struggle for existence, nor why or how variations occur, nor even how species change into one another; nor has it explained that which is most important of all, the origin and nature of consciousness.

This disappointment, which we are sure to feel in the failure of evolution to explain our great philosophical problems, must not, however, be laid as a fault at the door of science. It is due rather

to a popular misunderstanding of the purpose and claims of evolution. The evolutionary scientist, like any other scientist, is the very last to make rash claims about solving the problems of the world. He is rather a patient worker, content to point out, if he can, some of the steps in the method by which nature is working.

Herbert Spencer

One of the most important figures in nineteenth-century evolutionary philosophy is that of Herbert Spencer (1820–1903). Spencer's *First Principles*, in which his theory of evolution is fully developed, was published in 1862, three years after the publication of Darwin's *Origin of Species*. It does not appear that Spencer was indebted to Darwin even for his belief in organic evolution, for this had been proposed by many writers before Darwin, and Spencer merely accepted it. Spencer's significance, indeed, does not lie in this direction, but rather in his outline of a general system of cosmic evolution. What he gives us, therefore, is an actual system of philosophy, while Darwin was merely working on the problem of the origin of plant and animal species.

To Spencer, therefore, the whole world is a great evolutionary process. The materials of this process are found in Matter, Motion, and Force, which are not themselves ultimate realities, but represent merely the limits of our knowledge. He calls them *modes* of the *Unknowable*. The world as we know it results from the redistribution of Matter, Motion, and Force.

Now, it seemed to Spencer that it is the task of philosophy to find some formula which will explain the manner of the redistribution of these three ultimate knowables, or the manner of evolution. This formula is as follows. It sounds rather formidable, but if carefully studied will be found to be significant of the manner in which evolution proceeds. Evolution, then, is "an integration of matter and concomitant dissipation of motion; during which the matter passes from an indefinite, incoherent, homogeneity to a definite, coherent, heterogeneity; and during which the retained motion undergoes a parallel transformation."

Robbed of its forbidding aspect and put in simple language,

this means that all changes represent a process of integration and differentiation. In the beginning the world was a fiery mass, all alike and highly diffused. It began to be solidified, integrated, and different. Planets were separated from the Sun; land and water, mountains and valleys appeared and represented further differentiation. Any one can see how this process of integration and differentiation was carried on in every phase of development. In living beings there was first the undifferentiated mass of protoplasm. Step by step the all-alikeness is changed into manifold differences. Certain organs are set apart for digestion, others for locomotion, others for perception A single phase in the process may be illustrated at an advanced stage of evolution when the four-footed animal becomes erect, using his forward limbs no longer for locomotion, but for climbing and manipulation of food. Another phase later appears when the thumb is opposed to the other four digits and a new differentiation takes place. In society the same process is seen in the division of labor, even at the present time labor becoming more specialized daily. Changes in language illustrate the same law.

Spencer was rather carried away with the possibilities of his favorite formula, and if not with him, at any rate with many of his disciples, it has passed for an explanation. In later years, however, numerous exceptions were found to Spencer's law and some critics have gone so far as to ask, If it be true, what of it? We may call this process "Evolution," but we are little wiser than we were before. We desire to know more about that mystic trio with which Spencer starts and we are unreasonable enough to ask to know more about his Unknowable. It pleased Spencer to write this word with a capital U, and it was a convenient abyss in which to sink all the hard questions as to origins and productive and creative forces. But this kind of Agnosticism does not appeal to the modern student, because philosophy springs from a desire to know, so that Agnosticism becomes the negation of philosophy.

Spencer's philosophy seems on the whole to be a species of Naturalism, since the world is explained as merely the redistribution of Matter, Motion, and Force; but he never made it very clear

just how the mind is related to this trinity, sometimes trying to find the ultimate elements of mind in the nervous shock, but otherwise, and especially in his later writings, refusing to accept the materialistic imputation, expressly saying at the close of his *First Principles* that the reasoning contained in his pages affords no support to either of the two rival hypotheses called Materialism and Spiritualism. The materialist, seeing that feelings are transformable into an equivalent amount of mechanical motion, may conclude that the phenomena of consciousness are material phenomena. The spiritualist, setting out with the same data, may conclude that if the forces displayed by matter are cognizable only under the shape of equivalent amounts of consciousness, then these same forces when existing out of consciousness, are of the same intrinsic nature as when existing in consciousness.

On the whole, although Spencer throws little light on the philosophy of evolution for us, nevertheless he had an immense influence in the nineteenth century in extending the idea of evolution itself and applying it to every branch of knowledge. It was this as well as his valuable contributions to special subjects, such as ethics, religion, psychology, education, that made him one of the great thinkers of the nineteenth century.

Organic evolution

The history of the doctrine of organic evolution goes back to the ancient Greeks. Aristotle not only taught the doctrine of evolution, but he had, what Darwin lacked, a theory of its *causes*. Lucretius, the Roman poet, gives a somewhat complete picture of the gradual development of animal life from the simple first beginnings and even anticipated the theory of the survival of the fittest.

In modern times evolutionary views were freely advanced in the latter half of the eighteenth century and the first half of the nineteenth. In these years a long list of writers, among whom was the poet Goethe, anticipated the theory of organic evolution, that animal species have a common ancestry, and have arisen by a process of gradual change from simpler animate forms. The

theory was held by Darwin's grandfather, Erasmus Darwin, before the close of the eighteenth century

Lamarck

It was Lamarck, however, the famous French naturalist, who at the opening of the nineteenth century first formulated a complete theory of species transformation. But Lamarck's *explanation* of the origin of new species was radically different from that which afterwards became famous as Darwinism. Lamarck's view is both interesting and important, because it has to some extent been revived in our own time, when the difficulties in Darwin's theory have become recognized. Furthermore, it seems to be the more natural and easy method for explaining the changes which have taken place in plants and animals. Lamarck supposed that the environment modifies individual organisms and that the modifications thus produced are transmitted by the organisms to their offspring. In the case of animals he recognized also the modifying effect of use and disuse of bodily organs and the influence of effort and desire on the part of the animal. Since, now, the modifications which result from the action of the environment and from use and disuse are said to be passed on by inheritance, his theory involves the *inheritance of acquired characters*, a phrase which has become famous, leading to a century-long dispute. If we may suppose that such changes take place in animal bodies and may be passed on to the offspring by inheritance, the whole plan of evolution becomes much simpler.

Thus suppose, to take the classical instance, the giraffe or the ancestors of the giraffe, once did not have long necks. The constant stretching of the neck to get the tender leaves at the tops of the trees would elongate it. This elongation would be inherited by the next generation. In this way changes of all kinds might take place in the bodily structure of animals or in their habits, even to the forming of new species.

We could easily see how, for instance, the peculiar structure of the hind legs of the cat, admirably fitted for jumping upon her prey, and of the shorter, stiffer forelegs, fitted for receiving her weight after the jump, has come about simply by modifications

due to the practice of jumping; and the new practice of jumping might itself be explained by a change in the environment in which the cat lives, such as a necessitated change in the food supply. But Lamarck seems also to think that there are deep desires or "needs" in the organism resulting from internal forces tending toward development.

To the beginner in these studies Lamarck's theory of evolution seems very natural and convincing. It seems reasonable that the action of the environment should constantly be modifying habits and structure, and that an animal or man could, according to his desire, by use or disuse of any organ, gradually change its structure or function, and, furthermore, that these modifications could be transmitted to the next generation, thus perhaps finally effecting radical changes, even to the production of new species.

The inheritance of acquired characters

But it will be seen that Lamarck's theory, captivating as it is, rests upon a certain assumption, and herein lies the difficulty. It rests upon the assumption that modifications of structure acquired during the life of an individual can be passed on by inheritance to his offspring. This inheritance of acquired characters has in modern times come to be doubted, both because it is impossible to explain theoretically how it could occur and because there is very little actual evidence that it does occur. Cut off dogs' tails for as many generations as you please and breed from the tailless dogs — but the pups will be born with tails.

If, then, modifications in the structure and habits of animals cannot be passed on by inheritance, how in the world can we explain evolution? Animal species would seem to remain unchanged from generation to generation; as indeed outwardly they appear to. Now, although Darwin himself did have a limited belief in the inheritance of acquired characters, nevertheless his theory of evolution gets along without it. Presently we shall see how Darwin thinks this wonderful thing is accomplished — by small chance variations and natural selection.

But first a word more ought to be said about the inheritance of

acquired characters. At first sight it appears wholly reasonable that such characters should be inherited and even to be borne out by daily observation. Are not the sons of blacksmiths sturdy and the sons and daughters of musicians musical, and are not these and many other qualities inherited from parents who have acquired them? If by diligent and persistent effort through the years of my youth and manhood I strengthen my muscles, heart, or lungs, increase my skill of hand or foot, improve my voice, cultivate my taste, purify my morals, may I not hand these acquirements on to my children? Yes, but it will be by social inheritance, not by biological inheritance. Biologically the physical and mental equipment of the child is the same as that with which his father started, not the same as that with which his father ended, save only by such individual differences as are due to what are called *variations*, coming, it is believed, from internal causes. If at first it seems rather discouraging to learn that our dearly earned virtues cannot be handed on to our children, we may at least take some comfort from the fact that our acquired vices are not handed on either; but in either case this is only a half truth, for in such matters social inheritance is of the utmost importance. We may be very sure that our children and our grandchildren will inherit by imitation, association, and instruction both our acquired virtues and vices, but at birth they will start where their parents started. If the sons of blacksmiths are sturdy and the children of musicians musical, it is because these qualities run in these families, not because the parents have acquired them by practice or exercise.

It should be said, however, that biologists are not now wholly agreed about the non-inheritance of acquired characters, and the subject is again under investigation, the interest in it being renewed owing to the difficulties which have arisen in the alternative Darwinian hypothesis. Ingenious researches are being made in many laboratories in the attempt to unravel this knotty and puzzling problem, with results which by no means confirm us in the old belief that bodily modification can have no effect upon the germ-plasm and cannot to some degree be inherited. In

other words, many cases of the apparent inheritance of acquired characters are reported. At any rate, the evidence is sufficient to warrant the revival of Lamarck's theory of evolution as a possible rival of Darwin's view. Even the other supposition upon which Lamarck's theory rests, namely, that there are deep desires or needs in the organism which influence development, is by no means universally condemned now. So we hear at the present time of a school of evolutionists called the neo-Lamarckians, who do not believe that Darwin's theory of natural selection will satisfactorily explain all changes in animal species and who are partially returning to Lamarck's views.

Darwinism

Charles Darwin was born in 1809 and died in 1882. His *Origin of Species* was published in 1859 and his *Descent of Man* in 1871. In the history of science Darwin's work ranks in importance with that of Copernicus, Galileo, and Newton, in giving new direction to human thought and stimulating scientific research. It is true that nearly all the fundamental principles of Darwin's new science had been anticipated by other workers, but it was his patient and painstaking research and the clear formulation of his theory, which launched it upon the world as a new scientific view. It is perhaps true that Darwin's method is more valuable than his theory of evolution; being a perfect example of the inductive method, coupled with inexhaustible patience in research and experimentation, and associated with the utmost candor, honesty, and mental grace. After an initial draft of his theory in 1842, Darwin deferred its publication for seventeen years, during which time the theory of natural selection was independently discovered by his friend, Alfred Russel Wallace. Acrimony, however, and jealousy were qualities unknown to these searchers after truth.

The mere machinery of Darwinism, though familiar to every one, may be briefly summarized. Every species of animal is enormously prolific, tending to increase in geometrical ratio. There is a certain kind of codfish which produces 200,000,000 eggs. It has been estimated that a single dandelion plant,

should all its seeds mature, would in the fourth generation produce plants enough to cover a land area 245 times greater than that of the United States. A single bacterium might produce a million bacteria in a day,[1] and Linnæus said that three flies could consume the carcass of a horse as speedily as a lion could.

Since, then, plant and animal species are so prolific, there is neither room nor food enough for all. Hence there follows a *struggle for existence*, in which there will be a *survival of the fittest.* Who are the fittest? Those individuals best adapted to the environment. Why should there be any difference in this respect between individuals? Because of slight *variations* in structure or function between individuals of the same species, even those born of the same parents. Like begets like, but not just like. Those having favorable variations will be selected and preserved. This is called *natural selection.* They will live, thrive, and propagate, probably transmitting their favorable variations to their offspring. The less favored ones will perish. Gradually, in this way, there will be a modification of structure and in time a modification so great as to result in a new species. The sharp tooth, the tearing claw, the horny hide, the warm fur, all are useful in the desperate battle of life with enemies and elements, and all have arisen by slight accidental variations selected and preserved by heredity. Among birds that did not migrate, some individuals accidentally migrating would find more abundant food, would live and thrive and transmit this new peculiarity to their offspring. Thus instincts arise. Even the human eye, the greatest wonder of adaptation, might so arise from a single group of cells sensitive to light, thus warning the fortunate possessors of this variation of danger or prey.

If the difference between Lamarck's theory and that of Darwin is not entirely clear to the reader, it will become so if we use again the illustration of the peculiar structure of the hind legs of the cat. With Lamarck, individual cats actually change the structure of their legs by constant jumping after their prey, and these changes are passed on by inheritance and added to by the next generation. With Darwin the change is not due to practice, but

[1] See William M. Goldsmith, *The Laws of Life*, p. 186.

is an accidental one, having its origin in internal causes in the germ-plasm of the individual. Some cat was born with a variation in the structure of the legs favorable to jumping. In the struggle for existence such an individual would have an advantage over others of its kind owing to this modification. While its competitors in the struggle might die, such an individual would live and prosper and pass on to its offspring this favorable variation, since it was due to an inner factor and would be heritable.

This, then, is the celebrated Darwinian theory of the evolution of plant and animal species. The theory is ingenious — even fascinating. It will be noticed that it does not depend upon the modifying action of the environment, nor upon the modifying effect of use and disuse, nor does it involve the inheritance of acquired characters. It assumes only the occurrence of small variations, which might be accidental, and the preservation of the favorable ones by natural selection. Certainly such variations do occur and surely natural selection would seem to preserve them. What the student of philosophy wishes to know, however, is whether the theory will really work. Will it explain the origin of new species and will it explain the progressive development of species from the simplest micro-organisms to the wonderful complexity of the human body, and, most important of all, will it explain the coming of intelligence and the human mind? And finally, *if* Darwin's theory *will* explain all these, then just what assumptions are involved in it? What does Darwin take for granted and what does he explain?

The assumptions in Darwinism

Leaving for the moment the question whether Darwin's theory will work, let us notice the assumptions upon which it is based. It depends primarily upon four great principles, *variation, heredity, the struggle for existence, and natural selection.* A fifth principle, the survival of the fittest, is implied in the fourth. The assumption of these four principles does not weaken Darwin's theory, because they are all valid assumptions. They are truths. The biologist, interested merely in the origin of species, need not

hesitate over these assumptions, though he may question very much whether they will work to produce new species. But the student of philosophy, interested in understanding the world, must hesitate over them, not in the way of doubt, but in the way of wonder. Why the struggle for existence? Why variation and why heredity?

To those who have been led to believe that Darwinism is a kind of explanation of our human world, it will come as a surprise, if not as a kind of shock, to learn that Darwinism rests upon these unexplained assumptions. It may seem that if one really wishes to understand the world of living organisms culminating in man, the peculiarly interesting and determinative things are just these initial assumptions, namely, the struggle for existence, variation, and heredity, rather than the mere mechanism by which, granting these assumptions, natural selection works to modify species. Let us, then, examine these four principles, mentioning first the struggle for existence and reserving for fuller treatment the assumptions which form the framework of Darwin's scheme, namely, variation, heredity and natural selection.

The struggle for existence

The careless reader of Darwin might think that the struggle for existence is explained by the fact that more individuals are born than there is room or food for; but of course this explanation assumes the activity, insurgency, and spontaneity which belong to all life. If, then, one would really seek for an explanation of evolution, if one would hope to *understand* the progressive unfolding of living forms and functions culminating in the supreme intelligence of man, the secret would seem to lie rather in the insurgency of life than in the action of a negative principle like natural selection. One would say, "Right here lies the secret and the explanation of evolution — in the very nature of life, in the will to live, in the primordial impulse, push, appetency, desire, aspiration, or whatever it is, which is life itself." Granting this, the mere machinery of evolution, Darwinian or other, is of less interest.

Variation

Much the same interest attaches to the second principle in Darwin's scheme, namely, variation. Concerning the causes of variation, Darwin said that our ignorance is profound. Variations are constantly spoken of as chance or fortuitous variations, by which is meant, of course, not that they have no cause, but that they are not directed to any end; and the real significance of Darwin's hypothesis for philosophy lies, no doubt, in this, that granting such chance variations, and granting also heredity and the struggle for existence, it would be possible to explain the origin of species and all the wonderful adaptations which we see in the animal world without the assumption of any teleological factor. *If* the struggle for existence is in the nature of a mere blind push, *if* variations occur which are purely fortuitous, and *if* the forces of heredity are taken for granted, *then* it would be possible, it is said, to explain plant and animal species, with all their adaptations, instincts, intelligence, and reason, through the action of natural selection alone. The significance of Darwinism is seen just here; and it is this mechanistic aspect of the theory, no doubt, rather than the innocent doctrine of the descent of man, which has given it a degree of philosophical importance.

But since Darwin's time the difficulties of explaining evolution by means of small chance variations have steadily increased. Less and less emphasis is placed on the fortuitous character of the variations, and indeed less and less importance is given to the variations themselves. Grave doubts have arisen whether animal species could have arisen through the natural selection of small variations.

The truth of the general principle of the survival of the fittest is quite untouched by recent criticism; but a great deal of argument has been expended over the questions: (1) how much fitness is sufficient to lead to survival, and (2) whether very small advantages in the way of fitness, even if they lead to the survival of the individuals which exhibit them, will be followed to an indefinite extent in succeeding generations by further improvements in the same direction. We shall find that a good deal of evidence has accumulated tending to show that the second of

these questions must be answered in the negative, although the point is not yet settled to the satisfaction of every one.[1]

Difficulties

It is always a profitable experiment for those who may be interested in testing the Darwinian hypothesis to try to apply it to specific cases. Variations, as Darwin thinks, are preserved because they are useful. They must therefore be useful when they first appear. But in a vast number of cases this could not be true; and yet according to Darwin, the slightest variation in order to be preserved must be of advantage in the struggle for existence.

In another class of cases not subject to this difficulty, the application of Darwin's theory simply taxes the imagination to such a degree as to cause one to lose faith in it or to look desperately around for some other theory. Such are the instances of very complicated instincts like those of the yucca moth or of the migratory eels. Under this class of difficulties come the cases of very complex adaptations in the structure and function of animal bodies. Almost any illustration here might be used, but let us take, for instance, that of the function of the adrenal glands, first fully described by Cannon.[2] These glands are situated anterior to the kidneys, and under the influence of certain *emotions*, particularly fear and anger, secrete and throw into the circulation of the blood a certain substance called *adrenin*. Now, when an animal is experiencing the emotion of fear or anger, the occasion is probably a critical one, in which his life is threatened and must be preserved either by combat or flight. In either case unusual muscular power will be needed and possibly blood may flow threatening weakness or death. Now, it happens (shall we say?) that the effect of adrenin in the blood is, first, to cause the latter to be drawn away from the stomach and intestines to the peripheral muscles. In the present crisis digestion may wait, but the muscular system must function at its best. Adrenin, how-

[1] Robert Heath Lock, *Recent Progress in the Study of Variation, Heredity, and Evolution* (E. P. Dutton and Company), chap. III, p. 49.

[2] Walter B. Cannon, *Bodily Changes in Pain, Hunger, Fear, and Rage*, chaps. IV–X.

ever, though it lessens the activity of the stomach, does not lessen that of the heart, lungs, or brain; they will all be needed at their best. Second, adrenin causes an increase of secretion of blood sugar by the liver, furnishing an increased supply of quickly available energy; and, third, it causes an increased coagulation of the blood when exposed to the air, lessening the danger from bleeding. How all these amazing interlocking adaptations could have arisen by small chance variations in the course of ages the reader may try to imagine if he can. If it be possible, a question will arise whether other explanations may not be more probable. John Burroughs says:

> Try to think of that wonderful organ, the eye, with all its marvelous powers and adaptations, as the result of what we call chance or Natural Selection. Well may Darwin have said that the eye made him shudder when he tried to account for it by Natural Selection. Why, its adaptations in one respect alone, minor though they be, are enough to stagger any number of selectionists. I refer to the rows of peculiar glands that secrete an oily substance, differing in chemical composition from any other secretion, a secretion which keeps the eyelids from sticking together in sleep.[1]

Orthogenesis

On the whole we may say that, despite the loyalty of the neo-Darwinians, Darwin's theory — at any rate in its stricter form — has been steadily losing ground since the close of the last century. Many who still hold to the validity of the method of natural selection by small variations believe that these variations have not taken place in a haphazard manner, as strict Darwinism would seem to require, but in certain definite directions. The doctrine of Orthogenesis is the name given to this view. It means that variations are determinate, and that there is a certain definite direction in evolution. It is as if the variations or the mutations were tending, leaning, bending, so to speak, in certain definite predetermined directions; that is, it is not simply as if Nature were expanding, swelling, growing, but as if she were going somewhere.

[1] John Burroughs, "A Critical Glance into Darwin," *The Atlantic Monthly*, August, 1920, p. 239.

Since Darwin's time evidence has accumulated which shows that variations are more definite than used to be supposed. The palæontologists, who work out long series of fossils, bring forward cases of what looks like steady progress in a definite direction. There is a striking absence of what one might call arrows shot at a venture. It looks as if the occurrence of the new were limited by what has gone before, just as the architecture of a building that has been erected determines in some measure the style of any addition. An organic new departure will tend to be more or less congruent with what has been previously established. In post-Darwinian days the element of the fortuitous has shrunk.[1]

Some such view as this was held also by Nägeli and the Russian botanist, Korschinsky. "Nägeli believes that animals and plants would have developed about as they have even had no struggle for existence taken place and the climatic and geologic conditions and changes been quite different from what they actually have been."

Korschinsky says: "In order to explain the origin of higher forms out of lower, it is necessary to assume in the organism a special tendency towards progress." That is, to the believers in this kind of a theory of orthogenesis organic evolution has been and is now ruled by unknown inner forces inherent in organisms, and has been independent of the influence of the outer world. The lines of evolution are immanent, unchangeable, and ever slowly stretch toward some ideal goal.[2]

While this extreme form of orthogenesis is repudiated by Kellogg and would be received with caution if not with skepticism by most evolutionists, since it introduces a mystic factor not acceptable in science, still some kind of orthogenesis is favorably received by an increasingly large number of biologists to-day.

Mutations

It is partly owing to the difficulty in explaining evolution through the accumulation of small variations that so much interest has been aroused by the theory of *mutations*. De Vries, the Dutch botanist, experimenting with the evening primrose, found

[1] "How Darwinism Stands To-day." (Quoted by permission from *The Outline of Science*, edited by J. Arthur Thomson, vol. II, p. 371. 4 vols. New York, G. P. Putnam's Sons. 1922.)

[2] Vernon L. Kellogg, *Darwinism To-Day* (Henry Holt and Company), p. 278.

that new types *suddenly* appeared, these types breeding true. To these sudden decisive changes, he gave the name "mutations," to distinguish them from the slight changes, called "variations," which Darwin had emphasized. The distinction between variations and mutations had not been made in Darwin's time, and perhaps under the term "variations" he intended to include both.[1]

To some extent the mutation theory has supplanted the theory of small fortuitous variations. If, however, species change by sudden mutations, what is the cause of the mutations? It seems more difficult to think of mutations as occurring by chance than to think of variations as so occurring. In fact, as has been pointed out by M. Caullery, Professor of Biology at the Sorbonne, a certain dilemma has arisen in the theory of evolution just in this connection. Recent studies in genetics seem to indicate that *fluctuations* (variations), while produced under the influence of the environment, are not hereditary, and that *mutations*, while hereditary, are not directly dependent upon the environment.[2] It is, of course, too soon to know whether these results will be confirmed. But if they are, it will strengthen the belief of those who accept some internal factor determining the mutations themselves.

It should, of course, be understood that the mutation theory is not another theory of evolution. It is merely Darwinism over again, emphasizing the importance of natural selection. It escapes some of the difficulties which arise in the action of natural selection upon small variations, but it encounters others beside the ones just mentioned. It is much more difficult than is the theory of small variations to apply to complex adaptations like those of the endocrine glands, or to the behavior of the migratory

[1] In present-day biology the nomenclature is somewhat different. No sharp distinction is made between hereditary variations and mutations. There is a tendency to use the word "mutation" for all variations that are heritable, be they large or small. They are supposed to have their cause, not in environmental influences, but in germinal development, and they are discontinuous and may be the ground of change in species. Variations which are due to the action of the environment and are not heritable may be called "fluctuations."

[2] M. Caullery, "The Present State of the Problem of Evolution," *Annual Report of the Smithsonian Institution*, 1916, p. 332.

eels described by Professor Thomson.[1] The sudden appearance of any of these things seems very difficult to explain.

Heredity

We have seen that like begets like, but not just like, and we have seen that Darwin's plan of evolution depends upon these slight variations, which are themselves not understood. But why in general does like beget like? The only reason for introducing this problem of heredity here is to correct the popular impression that since Darwin's time biologists have unraveled this mystery.

The fact of heredity is so familiar to us that we forget the amazing wonder of it. Think of those tiny bits of matter, the seeds of our common garden flowers. Many of the different kinds look much alike. Some of them are so small that they can hardly be distinguished by the eye. In each one is a germ cell, and from that cell springs a new plant, repeating in a thousand minute details the mother plant from which the seed came. And then the plant produces a flower just like the flower of last summer, and then from the flowers come a host of tiny seeds, each one again possessing the same marvelous potencies. Does the seed "remember" the form of the parent flower? How does it all happen?

If this is hard to understand, think of the human body with its almost infinite complexity. Think of the details of one single organ like the eye or the marvelously complicated structure of the brain; and then recall that the human organism has the power of reproduction, creating millions of tiny specks of protoplasm which may become egg cells, each one of which has the potency, when properly fertilized by a still more minute sperm cell, of producing another human form, slowly maturing during a score of years, and resembling when mature the parent form in all its wonderful details, and even repeating a host of little habits and mannerisms belonging to the particular individual or family from which it sprang. Language fails to give any adequate idea of the miracle of biological inheritance. One has only to think hard

[1] J. Arthur Thomson, *An Introduction to Science*, p. 148.

about it and try to imagine how an animal body with its potential instincts and intelligence comes from an egg cell of microscopic size.

Weismann's theory of the continuity of the germ-plasm seems to throw light on the mystery of heredity and in popular belief is thought actually to explain it. The theory is clearly set forth in the following quotation:

> The fundamental hereditary relation is such that like tends to beget like, and the reason for this is found in the fact of germinal continuity. As long ago as 1875, Galton pointed out that there is a sense in which the child is as old as the parent; for when the parent's body is developing from the fertilized ovum, a residue of unaltered germinal material is kept apart to form the reproductive cells, one of which may become the starting-point of a child. This idea has been independently expressed and more fully developed by Weismann, who states it thus: "In development a part of the germ-plasm (i.e., the essential germinal material) contained in the parent egg-cell is not used up in the construction of the body of the offspring, but is reserved unchanged for the formation of the germ-cells of the following generation." In many cases the future reproductive cells are visibly set apart at a very early stage before the division of labour in body-making has more than begun; in other cases where the future reproductive cells are not visible till much later, we argue by analogy that they are reproductive cells because they have not shared in body-making, but have kept intact the protoplasmic equipment — the full inheritance — of the original fertilized ovum. Thus the parent is rather the trustee of the germ-plasm than the producer of the child. In a new sense the child is "a chip of the old block." The clarifying and corroboration of this doctrine of germinal continuity has been one of the most important steps of post-Darwinian biology. It enables us to understand why like tends to beget like.[1]

Of course, neither the authors of the above quotation nor Weismann himself intended to convey the impression that heredity itself is explained by the fact that some of the germ-plasm is actually continued from generation to generation. What we are apt to forget is that in both parent and child the amount of germ-plasm is constantly increased by the division of the germ cells, and in this cell division the fundamental mystery of heredity is packed. It is doubtless true that many an audience listening to the lecturer explaining the continuity of the germ-plasm

[1] Geddes and Thomson, *Evolution* (Henry Holt and Company), pp. 114, 115.

and the wonderful Mendelian laws has a dim idea that heredity has been explained, though the speaker had no thought of conveying that impression.

As regards the continuity of the germ-plasm, the matter may be made clear as follows: Put a pair of mice in a granary. Each mouse has a certain amount of germ-plasm in its organism. Some of this may be transmitted to the offspring. But in a short period there will be one hundred mice from the pair and each of these will have as much of this germinal material as the original parents. Evidently the original amount of germ-plasm has been multiplied by fifty, the new parts "inheriting" all the peculiarities of the original. Put in this way, we can see that heredity is not explained by the theory of the continuity or immortality of the germ-plasm.

Thus the "continuity of the germ-plasm" does not explain inheritance. For when we come to think of it, nothing *could* be continuous from generation to generation except the process and the form; and to say that the form is continuous is just to say in other words that the child resembles the parent. In other words, heredity is resemblance. Even if the identical egg cell were actually passed on from generation to generation, which, of course, could not happen, since any individual may produce thousands or millions of egg cells, we should still have to explain how the *body* cells of the child are moulded into a form almost exactly like that of the parent. The theory of the continuity of the germ-plasm makes it easier for us to understand how successive generations remain essentially the same, because they spring from *similar* germ-plasm — not from the *same;* but when we say similar germ-plasm, we are assuming the whole mystery of heredity.

Neither should we allow ourselves to think that the new knowledge of the structure of the cell has explained the mystery of heredity. In the last analysis we can see the chromosomes and chromomeres dividing into two, but we do not know why the new elements possess the properties of the old.

As for the Mendelian laws of heredity, showing how the characters are distributed among the offspring through successive generations, the discovery of these laws was of tremendous interest

to the geneticist, but of course no biologist ever put forth the claim that Mendel explained why the child resembles the parents. Not only have the Mendelian laws not explained heredity, but they have proved an actual embarrassment in applying the Darwinian theory of evolution. As Caullery says, "But if we return now to the study of evolution, the data of Mendelism embarrass us also very considerably. All that it shows us, in fact, is the conservation of existing properties. Many variations which might have seemed to be new properties are simply traced to previously unobserved combinations of factors already existing." [1]

There is thus a certain *evasiveness* about the doctrine of heredity, as there is about variation and the struggle for existence. As marshaled forward in the Darwinian theory, the extent of the assumptions is concealed by the familiarity of the phrases.

Natural selection

Natural selection, with its implied survival of the fittest, is as we have seen the fourth of the postulates upon which Darwin's theory rests. But the same difficulties do not arise in the case of natural selection as in the case of the struggle for existence, variation, and heredity. There is nothing difficult to explain about natural selection, as there is about the others, but, on the other hand, there is nothing in it of great help to the searcher after the philosophy of evolution. It was Darwin's peculiar distinction to point out the working of natural selection; and the value of this discovery has rarely been questioned among modern evolutionists, though it is now believed that the importance of it has been overestimated.

But just what is the philosophical significance of natural selection? What light does it throw upon the apparently upward trend of evolution, upon the successive steps in increased complexity of organisms, upon the growing differentiation of parts, upon the appearance of instinct, and intelligence?

The reason that the full difficulties in the Darwinian hypothesis have not been appreciated is that the popular mind is prone to *personify* natural selection, to think of it as some kind of intelli-

[1] M. Caullery, *loc. cit.*, p. 333.

gent direction of affairs, to think of it as using *strategy*, so to speak, as selecting, nursing, encouraging, promoting; in other words, to think of it, as many people do of natural laws, as some kind of *force* or *agency*, by which evolution is accomplished. "What is called Darwinism," says John Burroughs, "is entirely an anthropomorphic view of Nature — Nature humanized and doing as man does. What is called Natural Selection is man's selection read into animate nature." [1]

When we come to realize that natural selection is not an agency of any kind, that it is merely the name of a certain sifting process in nature which checks the insurgency of life, then we begin to understand how little enlightenment has come to the student of philosophy from this source. Some one has said that natural selection is really natural rejection; but the trouble is that either word, selection or rejection, implies to the uninitiated some sort of intelligent *inspection*, *appraisement*, and final *decision*. Now, that the whole evolutionary process does imply some appraisement of values, at least some strategy seems the more evident the more we study it; but let us get out of our minds the notion that natural selection is such an appraising or strategical agency. Natural selection merely sifts out those individuals who are not so peculiarly fitted to the environment as to survive in the struggle. If we could think of natural selection as a kind of policeman who guards the door of evolution and knocks on the head all who do not present themselves with a new and better equipment for the strife, even then the secret of evolution will be found, not in the obstructing policeman, but *in the genius of the individuals who devise the new equipment*. But we may not even think of natural selection as such an intelligent *sorter* of the fit from the unfit, as we have in artificial breeding of domestic animals. *All* the individuals pass through the gate and the unfit die of starvation. Evidently we must look elsewhere than to natural selection for the springs of progress and the source and secrets of evolution.

And that is all there is to Natural Selection. It is a name for a process of elimination which is constantly going on in animate nature all

[1] John Burroughs, *loc. cit.*, p. 242.

about us. It is in no sense creative, it originates nothing, but clinches and toughens existing forms. . . . What I mean to say is that there must be the primordial tendency to development which Natural Selection is powerless to beget, and which it can only speed up or augment. It cannot give the wing to the seed, or the spring, or the hook; or the feather to the bird; or the scale to the fish; but it can perfect all these things. The fittest of its kind does stand the best chance to survive.[1]

To the student of philosophy, therefore, keen to know something of the real secrets of evolution, the principle of natural selection is a distinct disappointment. His interest turns away from this negative blocking process to the force or the genius or the strategy which provides individuals with the *new equipment*, enabling them to elude the destructive power of competition. Neither is any help promised from the principle of the survival of the fittest, a phrase first used by Herbert Spencer, since this is merely another way of expressing the action of natural selection. It does not mean that those individuals who are absolutely the fittest — that is, the best — survive, but those whose qualities best fit their possessors to the immediate environment.

The unknown causes of evolution

The disappointment which the philosopher feels in Darwinism because of its failure to throw any light on his real problems is shared by many biologists of the present day, although for another reason. They find its results disappointing in the primary purpose which Darwin had in view, namely, the explanation of the origin of species.

When students of other sciences ask us what is now currently believed about the origin of species we have no clear answer to give. Faith has given place to agnosticism, for reasons which on such an occasion as this we may profitably consider. . . .

We cannot see how the variation into species came about. Variations of many kinds, often considerable, we daily witness, but no origin of species. . . .

In dim outline evolution is evident enough. But that particular and essential bit of theory of evolution, which is concerned with the origin and nature of species remains utterly mysterious. . . .

[1] John Burroughs, *loc. cit.*, pp. 246, 247.

The claims of natural selection as the chief factor in the determination of species have consequently been discredited.[1]

Natural selection remains still a *vera causa* in the origin of species; but the function ascribed to it is practically reversed. It exchanges its former supremacy as the supposed sole determinant among practically indefinite possibilities of structure and function, for the more modest position of simply accelerating, retarding or terminating the process of otherwise determined change. It furnished the brake rather than the steam or the rails for the journey of life; or in better metaphor, instead of guiding the ramifications of the tree of life, it would, in Mivart's excellent phrase, do little more than apply the pruning-knife to them. In other words, its functions are mainly those of the third Fate, not the first; of Siva, not of Brahma.[2]

The fair truth is that the Darwinian selection theories, considered with regard to their claimed capacity to be an independently sufficient mechanical explanation of descent, stand to-day seriously discredited in the biological world. On the other hand, it is also fair truth to say that no replacing hypothesis or theory of species-forming has been offered by the opponents of selection which has met with any general or even considerable acceptance by naturalists. Mutations seem to be too few and far between; for orthogenesis we can discover no satisfactory mechanism; and the same is true for the Lamarckian theories of modification by the cumulation, through inheritance, of acquired or ontogenic characters. *Kurz und gut,* we are immensely unsettled.[3]

Since Darwin's day much has been added to our knowledge of the facts about the manner and the effect of evolution, but only two important new alleged causal factors have been presented for consideration as primary causes of evolution; these are mutations and Mendelian inheritance. Neither has had any general acceptance as sufficient explanation of either species-forming or adaptation, which are the coordinate fundamental problems of organic evolution. In this same post-Darwinian period, also, the two most important explanations of evolution current in Darwin's time, namely, Lamarckism, or the inheritance of acquired characters, and Darwinism, or natural and sexual selection, have been weakened rather than strengthened as sufficient causes of evolution. Hence we are in the curious position of knowing now much more about evolution than was known fifty and sixty years ago, but of feeling much less confident that we know the causes of evolution.[4]

[1] William Bateson, *Science*, January 20, 1922.
[2] Geddes and Thomson, *Evolution* (Henry Holt and Company), p. 248.
[3] Vernon L. Kellogg, *Darwinism To-Day* (Henry Holt and Company), p. 5.
[4] Vernon L. Kellogg, "Where Evolution Stands To-day," *The New Republic,*

The truth is that adaptation explains the sinuosities of the movement of evolution, but not its general direction, still less the movement itself. The road that leads to the town is obliged to follow the ups and downs of the hills; it *adapts itself* to the accidents of the ground; but the accidents of the ground are not the cause of the road, nor have they given it its direction. At every moment they furnish it with what is indispensable, namely, the soil on which it lies; but if we consider the whole of the road, instead of each of its parts, the accidents of the ground appear only as impediments or causes of delay, for the road aims simply at the town and would fain be a straight line. Just so as regards the evolution of life and the circumstances through which it passes — with this difference, that evolution does not mark out a solitary route, that it takes directions without aiming at ends, and that it remains inventive even in its adaptations.[1]

In contrast to the unity of opinion on the *law* of evolution is the wide diversity of opinion on the *causes* of evolution. In fact, the *causes* of the evolution of life are as mysterious as the law of evolution is certain. . . .

Our present state of opinion is this: we know to some extent *how* plants and animals and man evolve; we do not know *why* they evolve. . . .

Again, despite the powerful advocacy of pure Darwinism by Weismann and de Vries in the new turn that has been given to our search for causes by the rediscovery of the law of Mendel and the heredity doctrines which group under MENDELISM, it may be said that Darwin's law of selection as a natural explanation of the origin of *all* fitness in form and function has also lost its prestige at the present time, and all of Darwinism which now meets with universal acceptance is the *law of the survival of the fittest*, a limited application of Darwin's great idea as expressed by Herbert Spencer.[2]

April 11, 1923. Compare also the following from M. Caullery from a personal letter to the author dated Paris, May 6, 1922: "Je concluais donc que, dans le moment présent, l'évolution est la seule explication rationnelle des faits connus, et que ceux-ci la confirment de plus en plus, mais que nous étions encore complètement dans l'incertitude sur la façon dont elle s'était réalisée."

[1] Bergson, *Creative Evolution* (Henry Holt and Company), p. 102.

[2] Henry Fairfield Osborn, *The Origin and Evolution of Life* (Charles Scribner's Sons), pp. ix, x, xiv, xv.

Perhaps the latter part of the above quotation does not fairly represent Osborn's position. In later writing he clearly says that the *mode* of origin of species is now well known, although the *cause* of the origin of species is another matter and no adequate solution of this has been found. He thinks that Darwin's theory of selection rests upon stronger evidence now than in Darwin's time and forms a partial solution of causation. Osborn also makes the observation, very interesting to students of philosophy, that species have not originated "by chance or by accident, as Darwin at one time supposed, but through a continu-

Of course, other equally competent biologists are just as outspoken in their belief in the adequacy of the principle of natural selection.[1] Their views are too well known to need quoting here. It is very apparent, however, that evolutionists are now emphasizing far more than formerly not only our ignorance of the causes of evolution, but also our uncertainty as to the way it has taken place. But all would agree upon the monumental importance of Darwin's work, emphasizing the *fact* of evolution and discovering and explaining the rôle of natural selection. He himself recognized very frankly the difficulties in the theory and even mentioned the possibility that much of his book might prove to be erroneous.

Some evolutionists are, therefore, turning back to the theory of Lamarck, already mentioned, in spite of the difficulty about the inheritance of acquired characters. They are beginning to doubt whether animal species got "naturally selected without the trouble of thinking about it." [2] Others — and these are in the majority — unable at present to solve this larger problem of the origin of species, are turning their attention to specific and narrower problems in genetics.

Creative evolution

Meanwhile, is there any key to the problem of evolution which the student of philosophy may hope to find? Darwinism, as we have seen, does not provide this key. If the theory of Lamarck should furnish the ground for a future satisfactory explanation of evolution, it would still leave most of the problems facing the philosopher unsolved. Lamarck's suggestion, that modification of structures in animal bodies is partly determined by use and disuse, and that use finds its root in the individual's own desires,

ous and well-ordered process." He even speaks of a spiritual principle in evolution shown by "the evidence of beauty, of order, and of design in the daily myriad of miracles to which we owe our existence." See his *Evolution and Religion*, pp. 15, 17, and his article in *Science*, February 24, 1922, "William Bateson on Darwinism."

[1] See, for instance, the vigorous paper by C. C. Nutting in *The Scientific Monthly*, February, 1921, entitled "Is Darwin Shorn?"

[2] Compare the biting satire on Darwinism in the preface to Bernard Shaw's *Back to Methuselah*,

does seem to offer one ray of hope. Perhaps, then, the struggle for existence may furnish a better key to the secret of evolution than natural selection.

Of the four principles emphasized by Darwin, two — namely, heredity and natural selection — offer us nothing. Though the mystery of heredity is unsolved, yet it would help us little to solve it; for reproduction gives us only the old, while evolution presents us ever with the new. The survival of the fittest is a principle of immense interest to the sociologist, but it is "the arrival of the fittest" which we are now especially interested in. It is evidently, then, in variation and the struggle for existence that we are to find, if anywhere, the secrets of evolution. What we actually know about evolution is that there is a step-by-step progress from the lowest to the highest forms of life. We *assume* that it is a process of continuity, but what we actually see and know is not a process of continuity at all, nor even a process of growth; it is rather the successive appearance of new forms and functions.

It seems more as if the new were *builded on to* the old, than as if the new were *growing out of* the old. If the new *grows* out of the old, as the word *evolution* would indeed strictly indicate, we should have to think of it as already potentially present in the old. Bateson, to be sure, in a much-heralded address some years ago, not perhaps intended too seriously, suggested, to the amazement of his fellow biologists, just this theory of evolution, namely, that it is a process of unfoldment, the original amœba containing potentially the whole subsequent race of animals and men. Possibly it was not so much that there was any evidence for this view, as that it offered a means of escape from the difficulties arising in the Darwinian theory. Incredible as the unfolding theory would appear, it might seem to tax the imagination less than the theory of the mechanical selection of chance variations.

But evolution does not seem like a process of unfoldment; it seems like a movement in the creation of new values. It *seems* more like the work of the artist, picturing ideals and then striving to realize them. In a sense, perhaps, the picture was present in the mind of the artist, as the Woolworth Building was present

in the mind of the architect; but the relation of the new to the old is expressed better in other terms than in those of unfoldment. The word *epigenesis* has been suggested as more appropriate than the word *evolution;* and recently Lloyd Morgan has proposed the term *Emergent Evolution,* which appears to be the most accurate of all.

At any rate, evolution is creative, and "creative evolution" is a more fruitful phrase than "natural selection." At every stage in evolution something new appears — life, intelligence, language, reason, science, social organization, morals, art. Nature in evolution seems to be aiming at something, at certain values — shall we say life, animal species, intelligence, consciousness? The appearance of opinions like the following in the biological literature of the day shows how far we are getting from the old mechanistic conceptions of Darwinism:

> The problem of individuality of species is very difficult; but our view of Nature as a whole must take account of the fact that species are multitudinous and that they represent discontinuous individualities, with much more constancy than the earlier Darwinians supposed. Linnæus said: "There are as many species as there were ideas in the Divine Mind," and there is no doubt that a good species is like a clear-cut idea. At the other extreme of comparison, it is like a chemical element, but on a higher plane. As Goethe said: "The one thing Nature seems to aim at is Individuality; yet she cares nothing for individuals." If we personify "Animate Nature," it must at least be as an artist with inexhaustible imaginative resources, with extraordinary mastery of materials.[1]

Only in some such way as this, perhaps, shall we be able to explain the appearance of the new at every stage of evolution.

Here, of course, it will be objected that just as soon as we begin to speak of nature as "aiming at" something, or creating after the manner of an "artist," we are becoming anthropomorphic, reading into nature our own method of thought and action. But the point is that philosophy is an attempt to understand the world, and the method of understanding it by reducing it to such symbols as matter, motion, time, and space, has not met with the

[1] Quoted by permission from vol. III of *The Outline of Science,* edited by J. Arthur Thomson, p. 705. 4 vols. (New York, G. P. Putnam's Sons, 1922.)

expected success. Just why should a concept, if it is useful in helping us to understand the world process, be rejected because it is anthropomorphic? Is there really any more reason for so doing than there is for rejecting it because it is not anthropomorphic? Possibly the concepts which we have at home are better than the foreign ones. Democritus, the Greek philosopher, said that the world is nothing but a process of motion among material atoms. But suppose that we say that it is a process of artistic creation or self-expression, have we any less right to this mode of thought or any less grounds for its truth? I am not now proposing this as a new philosophy of evolution, but suggesting that some such direction of thought is becoming common. That many biologists are beginning to think in these terms we have seen in the preceding chapter. One writer even says, "What are called variations and mutations in biological language are the organism's experiment in self-expression, and these are the raw materials of progress." [1]

That space and time and matter and motion are real, I have no thought of denying; but that they are the *only* realities is by no means apparent. With them we can construct certain sciences very well; but such sciences are not the only ones. Possibly certain concepts underlying biology and psychology, or even sociology, are just as *ultimate* as those at the root of physics and chemistry. The whole process of evolution might be looked at in an entirely different way from our customary nineteenth-century manner. This was illustrated by Bateson's suggestion that evolution might be a process of unfoldment. Although this has not commended itself either to biologists or to philosophers, it shows the possibility of using new concepts in the whole discussion.

Emergent evolution

This is illustrated also in a striking manner in the recent book of Lloyd Morgan, entitled *Emergent Evolution*, a book to which some reference was made in the preceding chapter. Here we have almost the first attempt, since Herbert Spencer, to outline a

[1] *The Outline of Science*, vol. II, p. 369.

real philosophy of evolution, instead of supplying, as other evolutionists have done, a mere formula or description of the several steps in development. Evolution, says Morgan, is a series of stages, in which there supervenes at each new level a new form of "relatedness" — or, as we should say, perhaps, a new structure or organization — and from this new form of relatedness something new "emerges," which is *effective* in determining the "go of events" from that stage on. Thus, from matter emerges life, and from life, mind. The world is a pyramid with ascending levels.

> Near its base is a swarm of atoms with relational structure and the quality we may call atomicity. Above this level, atoms combine to form new units, the distinguishing quality of which is molecularity; higher up, on one line of advance, are, let us say, crystals wherein atoms and molecules are grouped in new relations of which the expression is crystalline form; on another line of advance are organisms with a different kind of natural relations which give the quality of vitality; yet higher, a new kind of natural relatedness supervenes and to its expression the word "mentality" may, under safeguard from journalistic abuse, be applied.[1]

But what causes the emergents to emerge? What is the *agency* which lifts the world, so to speak, from one level to the next? Here Morgan definitely takes his stand on the necessity of affirming a power which he calls Activity, or Mind, or God.

> For better or worse, while I hold that the proper attitude of naturalism is strictly agnostic, therewith I, for one, cannot rest content. For better or worse, I acknowledge God as the Nisus through whose Activity emergents emerge, and the whole course of emergent evolution is directed. Such is my philosophic creed, supplementary to my scientific policy of interpretation.[2]

Evolution as strategy

Another striking illustration of this tendency is seen in the recent book entitled *The Grand Strategy of Evolution*, by William Patten, Professor of Biology in Dartmouth College. The new

[1] C. Lloyd Morgan, F.R.S., *Emergent Evolution* (Henry Holt and Company), p. 35.

[2] *Loc. cit.*, p. 36.

view of evolution set forth in this book is of peculiar interest to the philosopher. Certainly evolution has all the appearance of being some kind of "strategy," but hitherto it has been customary to use all such words in a figurative sense, it being understood, of course, that it looks like strategy, but is really just mechanism. But in this book such terms are used in quite other than a figurative sense. In fact the view of evolution here set forth completely reverses our older ideas about it. The author sets out with a wholly different set of concepts, so different that it is hard at first to adjust ourselves to his new views — so habitually has our thought run in mechanistic Darwinian channels.

In the first place, Patten thinks that the

> concept of a creative drift from the futile conflict of chaos toward a more stable structural organization and unity is the central idea of evolution, and the general recognition of this phenomenon is the distinguishing characteristic of the scientific and intellectual thought of modern times.[1]
>
> Back of all evolutionary processes lies a universal compulsion to constructive action.[2]

But it is not this notion of evolution as a creative movement toward structure and organization which is the striking feature of Patten's view; it is rather his further belief that this creative movement proceeds by the action of certain fundamental properties of all life and mind — yes, even of all reality, namely, *self-preservation, self-sacrifice,* and *coöperation.* This is what he says:

> Natural selection and the survival of the fittest are perhaps the broadest terms used in the biological sciences, but the processes so designated have no creative value. The terms merely imply that a definite sequence of products ensues, or affirm the self-evident fact that something already created is selected for survival, or that it endures. They do not suggest how it was created, why it survives, or wherein its fitness lies.
>
> I shall try to show that there is but one answer to all these questions; that there is but one creative process common to all phases of evolution, inorganic, organic, mental, and social. That process is best described by the term coöperation, or mutual service.[3]

[1] William Patten, *The Grand Strategy of Evolution* (R. G. Badger), p. 44.
[2] *Loc. cit.*, p. 129.
[3] *Loc. cit.*, pp. 32, 33.

"Creation is the birth of new things through the mutual services of preëxisting things." Egoism, altruism, and service (cooperation) are therefore ultimate concepts, through which alone we can understand evolution. It is always the investment of self in a purpose beyond self which determines the evolutionary movement — that is, progress. Evolution consists in just this — that things brought together in a definite time and space relation act together coöperatively; and as a result something new appears, which could not otherwise exist, having new qualities. An atom, an organic body, an animal, or a state, are essentially cooperative systems, which endure only so long as an inner coöperation endures and so long as coöperation with the environment endures.

As the chemistry of coöperating elements creates new chemical bodies, with new properties and new powers for world service, so the superchemistry of coöperating lives creates new organisms with their new powers for world service. These new properties of the "living body," or of a group of men called a "team," a college, a city, or a state, constitute what is called the "soul" or "spirit," or attribute of that group. All these "new things" are unlike any of their constituent parts, hence they can be measured, or compared, only in terms of themselves.[1]

Looking backward, says Patten, we see nothing but the futile conflict of chaos, a primordial simplicity, continuity, and uniformity. It is complete "freedom." Looking forward, progress consists in the serial creation away from a primordial vastness, minuteness, emptiness, toward a creative fullness and variety, such as is found in organization and unified coöperative power. The creative drift is in the direction of a stable organic whole. Coöperation is the key to the whole upward movement. As it progresses, the world becomes more disciplined.[2]

This process of nature-growth is "purposeful" in the same sense that the physiological acts of a plant, a worm, a frog, or a human being, or any of their parts or organs, may be purposeful or self-constructive acts; for nature-growth is the product of the coöperative acts of many different things, the purpose of which, or if you prefer, the end, or result of which, is the creation, preservation, and growth of nature's individuality.[3]

[1] William Patten, *The Grand Strategy of Evolution* (R. G. Badger), p. 29.
[2] *Loc. cit.*, pp. 42, 43, 44. [3] *Loc. cit.*, 47.

If, now, some one objects that such a conception of the world movement comes into conflict with the law of conservation of energy, Patten makes the very pertinent remark that organization and evolution are manifest facts, quite as manifest, to be sure, as the law of conservation itself.

I have quoted at some length from this book not because of its finality, but as an example of the attempt, common among present-day biologists, to introduce into the theory of evolution a wholly new set of concepts. So accustomed are we to hear of mass and motion and action and reaction as ultimate ideas that it seems strange to us to hear of self-expression and self-sacrifice as concepts equally fundamental.

All this seems to be very instructive and suggestive. It illustrates what seems to be a prevalent tendency in biology now, a tendency to place less emphasis on matter, motion, and force, and more upon life itself and its concomitant creation of values. We have tried without much success to interpret heredity, variation, and the struggle for existence in terms of chemistry and physics, in terms of masses of matter in motion, in terms of that mysterious something called "energy," and to explain evolution as a process of natural selection of chance variations. Perhaps we should reverse this and explain variation in terms of evolution, and explain heredity and the struggle for existence in terms of self-expression and coöperation. Perhaps, as Patten suggests, even growth, as in plants and animals, is a kind of "self-enlargement," which is a fundamental property of matter.

Instructive also is his belief that evolution means a progress in *discipline* rather than in *freedom*. "Progressive union and stability, progressive coöperation, organization, service, and discipline are, therefore, inherent properties of life and matter." Owing quite to incidental historical circumstances, we are now living in an age in which it has become customary to exalt freedom to the skies. This is due to a passing social situation, the revolt from a stage in social evolution in which authority had developed into tyranny. The love of freedom has become a kind of mania with us.[1] In a way, of course, evolution *is* in the direction of greater freedom. True freedom arises through coöperation,

[1] Eleutheromania, Irving Babbitt calls it.

the freedom to grow, to develop, to create. There is no conflict of ideals here; it is only that we have for inevitable reasons come to emphasize freedom too much and discipline too little. If, then, as Patten thinks, freedom belongs to the original chaos, while discipline and coöperation characterize all growth and organization, the biological view seems here to strengthen the ethical view. It may give a new direction to our freedom-intoxicated age to learn that discipline and coöperation are fundamental in the evolutionary method. It may also give us new light as to the place of the doctrine of the survival of the fittest in social organization.

After the triumph of Darwinism in the last century some European statesmen justified the ruthless rivalry of nations by an appeal to the law of struggle for existence, and the law of the survival of the fittest, as fundamental laws of nature. This was owing to their failure to recognize that the law of coöperation is more fundamental than the law of competition; and it is just because of this short-sightedness that we witnessed the threatened collapse of European civilization after the Great War. When we can introduce into political and international relationships some of that coöperation which is shown in the body of a plant or an animal, or even in the structure of an atom, then we may hope for a social stability comparable with the stability which we find in nature.

From another point of view Edwin Grant Conklin has developed the same thought in his book, *The Direction of Human Evolution.* The evolution of the human body and brain is at an end, but not so social evolution, and the direction which it must take is that of increased group specialization and coöperation. Without this no further progress for the human race is possible. If democracy means a loose social organization and greater freedom of the individual, it is doomed. If it means specialization and coöperation, it is the road to social welfare.

Life and mind as achievements

In conclusion, evolution seems to be a process of *achievement,* in which, step by step, higher values are won. Life itself is one of

these values; mind is one; science is one; social organization is one. Dare we go further and say with Hegel that philosophy, art, and religion are the final values toward which the world is striving, or shall we say that consciousness itself is the highest round of the ladder?

I do not think we can answer these questions yet; but if it be true that evolution is a process of achievement, a great movement in the realization of values, then it becomes no longer a gospel of despair, as it has so often been, but a gospel of hope.

A wholly different turn could be given to the evolutionary hypothesis if it was held that Lamarck, after all, was on the right track, and that, underlying natural selection and the struggle for life, there was a real tendency in organisms themselves to produce higher forms, meaning by higher those that gave more scope for intelligence, beauty, and love. The moral effort of man and the gradual flowering of culture out of savagery would then take their places as processes in harmony with the fundamental trend of things towards the better.

This, the view of hope, is the one that has tended to prevail in our modern world. As such, it might almost be called the distinctive religion of our time, all the more significant because it revives, possibly with the added weight given by modern science, that old belief in formative impulses struggling up through chaos into ordered freedom, the belief that we saw dominated so much of Greek thought and influenced so profoundly the mediæval mind.[1]

But, as this author adds, if this be the religion of our times, it is one crossed by doubt. Will the philosophy and science of the twentieth century establish this article of our faith?

In connection with this chapter read:

James Ward, *Naturalism and Agnosticism* (The Macmillan Company), vol. I, lectures 7, 9, and 10.

Friedrich Paulsen, *Introduction to Philosophy* (Henry Holt and Company), pp. 180–206.

Further references:

Henry Sidgwick, *Philosophy, Its Scope and Relations* (The Macmillan Company), lectures 6 and 7.

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[1] F. Melian Stawell, in Stawell and Marvin's *The Making of the Western Mind*, p. 313. (Reprinted by permission of George H. Doran Company, publishers.)

Geddes and Thomson, *Evolution.* (Home University Library, Henry Holt and Company.)

J. Arthur Thomson, *The System of Animate Nature* (Henry Holt and Company), vol. II, lectures XI–XVII.

Richard S. Lull, *Organic Evolution.* (The Macmillan Company.) A standard text.

Charles Darwin, *Origin of Species.* (D. Appleton and Company.) *The Descent of Man.* (D. Appleton and Company.)

Vernon L. Kellogg, *Darwinism To-Day.* (Henry Holt and Company.)

John E. Boodin, *A Realistic Universe* (The Macmillan Company), chap. XVIII; especially pp. 368 to 384.

H. H. Lane, *Evolution and Christian Faith.* (Princeton University Press.)

William Patten, *The Grand Strategy of Evolution.* (R. G. Badger.)

Edwin Grant Conklin, *The Direction of Human Evolution.* (Charles Scribner's Sons.)

C. Lloyd Morgan, *Emergent Evolution.* (Henry Holt and Company.)

CHAPTER IX

IS THE WORLD PURPOSIVE?

In this chapter we discuss a very old philosophical problem, that of *ends* or *purposes*. Is there *purpose* or *design* in nature? Does the world have a *goal*, or *end*, or *purpose? Teleology* is the name applied to the study of these questions. It is from two Greek words meaning the science or study of ends.

Purpose in human affairs

It is very evident that human beings work toward ends. Theoretically, whatever we do, we do for a purpose. You have a purpose in reading this book, perhaps to gain a knowledge of philosophy, perhaps to prepare for an examination. If you make anything, it is made for a purpose; and each part of it has its own purpose. The motor car has a purpose. Every casting in it, every bolt, spring, pinion, rod, gasket, bushing, flange, or ball has its purpose. It is natural for us to think teleologically; that is, as if everything had a purpose, just as it has in human affairs. It is natural for us to think that every part of the human body has a purpose. Sight is the purpose for which the eye exists, and every minute part of the eye, muscle or lens or nerve cell, has its purpose. So of all parts of the body, muscles, bones, blood, glands, skin, hair, nails, eyebrows, and eyelashes — each has its purpose. The child seems instinctively to be a teleologist, for he is always asking the question — What is this for? He seems to take it for granted that everything in the world has a purpose, just as he assumes that everything which man makes has a purpose.

But when the child grows up and begins to reflect, he sees that the subject presents difficulties. He sees clearly enough that human beings, who can think and look forward and make plans, act purposively. But is it so certain that there is any purpose outside the human mind? Science seems to teach that everything

in nature acts not purposively, but mechanically. Whatever happens in nature, the falling of a stone, the erosion of a continent, the formation of a snowflake, happens mechanically; that is, its action is rigorously determined by preceding physical conditions. Every phenomenon in nature is fully accounted for by the sum total of physical conditions preceding it. A physicist, as soon as he stops to inquire what things are *for*, deserts his scientific standpoint; for the latter always presupposes that the complete explanation of things is found in the chain of physical sequences which conditions them.

Take the automobile again. Its parts do not act purposively — they act blindly and mechanically, following definite mechanical laws. The horn honks, not to warn of the approach of the car, but because a current of electricity has been turned into a certain circuit and mechanically causes the vibration of a certain diaphragm. A wheel turns, not to propel the car, but because a certain amount of physical energy has been communicated to the axle; and if anything goes wrong with the mechanism no part of the car can adjust itself in an adaptive way to the new situation, but grinds itself out according to fixed mechanical law. So also of the tree or human body. The sap in the tree is stirred to action, not to attain any end, but because of the mechanical influence of the sunlight. The muscles of the body contract, not in order to deliver a blow, but because of the inflow of muscular and nervous energy.

Pursuing this line of thought the reader may say: I think I see through the riddle. The parts of the motor car, of course, all act mechanically according to fixed physical laws; but it is still true that every wheel, valve, and washer has a function to perform, and this function may be regarded as a purpose, if we think of the whole machine as *planned* or *designed* by an inventor or a mechanic. The *purpose* is outside the machine in the *mind* of the man who designed it.

Apparent purpose in nature

And now, he continues, let me think about the tree and the human body. All the parts *must* act mechanically, and yet there

seems to be a purpose in them, just as in the parts of the motor car. Certainly the purpose of the eye is to see, and of the thumb to grasp, and of the teeth to bite and chew; but since they are physical objects governed by physical laws, the purpose must reside outside the body in some world-builder, or God. In other words, the tree and the human body must have been *designed* by some one having the mental power of vision to see an end to be accomplished, and then to adapt the instrument to the end; for it is quite clear — to take the case of the tree — that there is a plan or purpose in its parts — the leaves to serve as the lungs of the tree taking up the carbon dioxide from the air, the rootlets to absorb the moisture from the earth, the strong trunk to resist the winds, the rough bark to protect the vital parts beneath. Likewise the warm fur of the musk ox and the sharp tooth of the tiger have their purpose.

In other words, the various parts of the body or the tree or the flower or the blade of grass are *instruments* for accomplishing certain ends, just as the parts of a motor car are instruments, each for a certain purpose; but, like the parts of the motor car, none of these instruments acts purposively. They blindly follow mechanical laws.

All this sounds very reasonable, and it seems to imply that animal bodies and plants and trees are in some way the product of intelligence and design; and, since they are not the product of human intelligence, they must be the work of a cosmic intelligence, or God.

But it is just an analogy

But, as we think about the matter more carefully, we begin to see that our reasoning was nothing but an analogy. The parts of animal bodies and of plants have a striking resemblance to the parts of an automobile in this only, that they perform certain functions in such a way as to contribute to a final result, speed on the part of the motor car, and life or activity on the part of the animal. By analogy we infer that, since the motor car is the product of an outside intelligence, the plant and animal body must be also. What we really see in plant and animal bodies is a very

wonderful *adaptation*. There is an adaptation between the parts of the tree and the environment, the latter consisting of sun and soil and air. There is an adaptation between the fur of the polar bear and the climate.

Adaptation

Now, just what *is* adaptation and what does it imply? Does it imply a mind which has thought of the adaptation and designed it; or is it nothing more than a relation of fitness or adjustment to the conditions under which an organism lives? Does adaptation imply a purpose? Could it not have been attained by organisms through the method of trial and error? Has not Darwin explained it by the action of natural selection operating on small chance variations? If so, is not our whole analogy between the motor car and the tree a fallacious one? Furthermore, do we have in nature any such perfect adaptations as we have in human machines? Are there not countless cases of maladaptation, such as the city and the earthquake, or the migratory instincts of the birds and the late storms of spring which kill them by thousands?

But, if we reject purpose as an explanation of adaptation, what is the alternative? Is *chance* the alternative? Are we, then, to suppose that all the world of beauty and order came fortuitously into being? Did the order which we see in the movements of the heavenly bodies just happen? Did it just happen that there is a moon to light our way at night? Did the grateful alternation of sunshine and rain just happen? Did it just happen that the air is fit to breathe and that the Earth brings forth fruits and grains fit to serve as food? That this orderly world has come about by the chance collisions of atoms of matter is more difficult to believe, as some one has said, than that Shakespeare's plays should happen from an explosion in a printing office.

What, then, are we to do? That the world has come about by chance seems impossible to believe; at any rate, we will not believe it until we have exhausted all other hypotheses. On the other hand, that the world is a great machine, designed and created by some transcendent world-builder for some definite pur-

pose, as the mechanic creates a motor car, seems like a childish analogy having little scientific value.

But are there not other possibilities? Are chance and purpose the only alternatives? And if there are no other alternatives, might we say that the world is purposive without going so far as to think of it as a kind of manufactured article, planned and executed by some anthropomorphic god? Clearly the problem needs a lot of reflective thought. A glance at the history of the subject will first be helpful.

Historical

There was an old Greek philosopher named Anaxagoras, who discovered that the world is made out of a vast number of little atoms. Atoms, he thought, would serve as the *material* of the world, but what imparts to the atoms their original *motion?* Anaxagoras needed a *moving cause*, and, therefore, affirmed that *Mind* was this moving cause. But we can hardly say that Anaxagoras was a teleologist, for he considered mind to be merely an initial cause of the world, not a designing intelligence.

Next came Socrates, who said that Anaxagoras did well to introduce mind as the cause of the world movement, but that he did not make enough use of this principle, for he, Socrates, saw evidences of benevolent intelligence and design in all the works of nature, instancing the beautiful adaptations seen in the human body, such as the protection of the eyes by the bony ridge above them and by the eyelashes and eyebrows. Socrates, therefore, is a representative of that view, already referred to, according to which the world is conceived somewhat after the manner of a machine, but a machine which is designed and planned by an outside intelligence. This view is sometimes called the carpenter theory of the Universe, or the watchmaker theory, giving us a static rather than a dynamic purposiveness.

Plato was no less confident than Socrates, his teacher, that the world is purposive, but he held the theory in a less anthropomorphic and mechanical form. The world, Plato believed, is through and through rational and orderly. It is a "cosmos," not a chaos. Its ultimate realities are Ideas, and these Ideas are

values, and the world becomes real in proportion as crude "matter" takes on these ideal forms. In Plato's philosophy the eternal Ideas are *types* or *patterns*, of which individual things are imperfect copies. The Good and the Beautiful are, for instance, eternal values which are to be copied. With Plato the world has a meaning and its meaning is to realize the perfection of the eternal Ideas. A philosophy which speaks of cosmic values, ideas, patterns, and types is thoroughly teleological. Surely, we have here in Plato, right at the beginning of the controversy, a wonderful conception of the Universe, which is quite different both from the crude theory of chance and the mechanical watchmaker theory of Socrates. Plato, to be sure, did not work out this part of his philosophy with great clearness or consistency, but it was certainly an epoch in the history of thought when it was first proposed that the world is a movement in the realization of values.

Following Plato, Aristotle also held a world view thoroughly teleological. In some passages he speaks of design quite after the manner of Socrates. Everything in the world has what Aristotle calls a "final cause," or purpose. The end for which a thing exists is a true cause of the existence of that thing, just as much as any efficient or mechanical cause. These ends Aristotle called *final causes*, a phrase which has become classical in the discussion of the problem of purpose. We must not ever confuse final causes with first causes or with ordinary mechanical causes.

As we get into the spirit of Aristotle's philosophy, however, we discover that it is a kind of immanent dynamic purposiveness which he advocated. The world was never created, but is an eternal process or movement or development, in which the potential is always passing on into the actual, and the actual is the ideal. We may say that animal species, human beings, states, institutions, and justice are ideas which nature is realizing, or as we might almost say, which nature is striving to realize.

But, Aristotle continues, what is the initial force or prime mover of the great world-development process? It must have some cause. Here Aristotle offers a suggestion very rich and provocative of our thinking, for he says that the Prime Mover, or God, moves the world by attracting it. The final ideal reality

is *good*, hence *desired*. This daring conception of the Universe as a great process of realization drawn onward by the vision of an ideal end almost takes our breath away. Could it be true? Could it be reconciled with our modern evolutionary philosophy?

Meanwhile, another great Greek thinker, Democritus, utterly denied the existence of any cosmic intelligence, plan, purpose, goal, or ideals. The Universe is a concourse of material atoms, themselves in eternal motion, whose mechanical configurations constitute all objects of experience. Epicurus and Lucretius, representing the later Epicurean school, developed this anti-teleological view, denying that nature has ends or purposes or any goal — denying also that ends or purposes do in any way act as causes determining the course of events. During the Middle Ages, it was the world view of Plato and Aristotle, rather than that of Democritus and the Epicureans, which found general acceptance. The tendency increased, however, to go back to the form of statement held by Socrates. God designed and created the world. It was even thought that the Earth is the center of the Universe and was especially planned as a residence for man. This view finds its crowning exposition in Dante's *Divine Comedy*, where the whole Universe is a grand and mighty drama, existing for man and his redemption.

General purposiveness in nature was supported by Bruno, Newton, Leibniz, Voltaire, and later by Goethe, John Stuart Mill, and many others. In scientific circles, however, a teleological view of nature was opposed from the time of Descartes. Plant and animal bodies and even the human body, as Descartes taught, were machines pure and simple. The introduction of final causes, said Francis Bacon, has done much to retard the progress of science, which is concerned only with physical causes. Spinoza and Hobbes likewise excluded all teleological notions from their philosophy.

Parenthetically we may remark here — and this should throw light on the whole subject — that the conception of the world as a mere mechanical sequence of events, in which each step is determined and fully explained by the preceding ones, was a conception perfectly fitted to Francis Bacon's purpose, which was

not to *understand* the world, but to *use* it, to *control* it, to *exploit* it. The world is "explained" by a knowledge of its mechanical sequences, if by explanation you mean that kind of understanding which enables us to make *use* of natural forces. One of the objects of the natural sciences is to gain acquaintance with the *chain of sequences* which are observed in nature and the *uniformities* which we see, *in order that*, desiring any particular kind of behavior, we may know how to get it. Such knowledge is highly useful in the practical arts, in commerce, and in industry. Our tremendous success in controlling the forces of nature and in bending them to our material needs is due to Bacon's method; but this kind of knowledge is not philosophy, nor, indeed, is it science in any true sense, nor does it satisfy the real searcher after truth. Philosophy is an attempt to *interpret* the world, and no mere observation of sequences leads to such interpretation. Possibly the world has no *end* or *purpose* just in the human sense of the word *purpose;* but it undoubtedly has a *plan*, if by plan is meant a pattern, or a determinate order, rather than a design. Indeed, we may even say that it has a *design*, if by this word is meant not something designed, but something of which the unity and meaning can be discerned.

Returning to the history of the controversy, although Descartes himself applied the mechanistic conception only to the materially extended world, not including the free activity of thought or the purposes of God, yet it was easy after his time to extend the conception to the whole Universe, utterly denying any kind of cause except efficient or material causes. It seemed, however, a little difficult for the mechanists to account for adaptation in nature, especially in the organic world. Paley, a theologian of the eighteenth century, wrote a work whose purpose was to prove the existence of God by the evidences of intelligent design in the world; and he used the now well-known comparison of the watch and the human eye. The manifold parts of the watch and their adaptation to one another and to the purpose of keeping time are no more evidence of an intelligent designer than are the equally manifold and wonderful parts of the human eye, which was clearly made for the purpose of sight. Instances of adapta-

tion in nature, such as the wonders of the human body and the marvelous instincts of animals, may be heaped up till the reader is convinced that there is intelligent design in nature.[1] It would seem to be impossible to account for such adaptations by chance, and it was assumed that conscious design was the only alternative, an argument that was rather ineffectively met by the opponents of teleology instancing the many cases of maladaptation in the world, and of sin and death and suffering; for obviously it is of little use to heap up illustrations of misfits in nature, since in the long run the cases of such misfits are merely the exceptions which bring into sharp relief the cases of adaptation — otherwise no species of plants or animals would continue to exist. Paleontology reveals the existence in the remote past of species of ants, for instance, identical with living species to-day. They are adapted to their environment and successive generations live and thrive and fulfill all their functions. A late storm in the spring kills some robins and bluebirds, but year after year and century after century the robin and bluebird species live, feed, breed, and appear to be happy. They are fitted to their environment.

Darwin's contribution

But while the citing of cases of maladaptation may not weaken the old argument for design, this argument was immensely weakened by the coming of the theory of evolution in the nineteenth century, and especially by Darwin's theory of natural selection. These cast a wholly new light on the old puzzle of adaptation and greatly strengthened the position of the mechanists; for it was now thought possible to explain adaptation in the organic world otherwise than by either chance or design, namely, by gradual small variations and natural selection of the fittest. Even the human eye, or any other marvel of adaptation, or any of the wonderful animal instincts, could be explained in this way. Given only plenty of time, variation, heredity, and the

[1] A collection of such instances and a modernized form of Paley's argument may be found in a book by J. N. Shearman, entitled *The Natural Theology of Evolution.*

struggle for existence, and a single group of cells on the surface of the body fortuitously sensitive to light might develop into such a complicated organ as the eye, quite on mechanistic principles.

Hereupon the old watchmaker theory of the Universe propounded by Socrates, nourished by Dante, developed in a childish form by Paley, fell into complete disrepute. Science explains all things by simple mechanical causation, and it is unnecessary to call in any designing God, or even any mystic vital force. The latter part of the nineteenth century was a period in which the exaltation of material science was at its height, faith in its pronouncements being greatly strengthened by its marvelous applications in all branches of the practical arts.

Twentieth-century caution

The twentieth century has made us more thoughtful and more cautious. The riddle of the Universe cannot be so easily solved, as we thought, by assuming nothing but mass particles in motion, the secrets of whose motions are revealed by the laws of physics and chemistry. Many things have given us pause. The Great War itself shattered our calm confidence in human progress toward a kind of approaching scientific millennium; nor have the events subsequent to the war tended to restore this confidence. The fashionable scientific optimism of pre-war days has given place to doubt and hesitation. Our conquest of nature and our multiplied mechanical inventions have not contributed so much as we had hoped to human welfare.

In all this revision of the nineteenth-century standpoint there has, of course, been no question of the value of the scientific standpoint as such; but the question has come up whether the view which science gives us of the world is the *only* true one. Science sees the world under the aspect of its uniform sequences and habits of behavior; not under the aspect of its meaning, its unity, its idea, its purpose. "The story of science is a true story, but not the whole story" — and perhaps not the most interesting part of the story.

The biological point of view

When we begin to study the simplest living organism, we find that there is something which eludes the mechanical scheme; and this is *life*. A full description of the physical and chemical processes in a living organism does not give a complete understanding of it; there is something else which can only be expressed by the introduction of teleological concepts. We are up on another level of reality and we need new categories to explain what happens there.

The cause-and-effect relation, so fundamental in the mechanical sciences, no longer furnishes the key to the world of living organisms; a new relation appears, namely, that of *means* and *end*. It does not, of course, replace the relation of cause and effect; it supplements it. With the coming of life, something appears which we must designate as *value*. Life is a value, a goal, a good; and whatever contributes to it is an instrumental value; for instance, food, air, water, sex, exercise.

In physics the data are taken as external to and independent of each other. That is of the essence of the procedure of the mathematical physicist. His symbols take no cognisance of behaviour as exhibited in life or purposive action. But when we are observing a living organism this is just what we must take account of. We cannot get at the meaning or the reality of our data if we take them as if existing in isolation from each other. It is characteristic of the phenomena with which we are here concerned that the details of form, movement, and chemical composition which we distinguish in them are essentially and not accidentally connected with each other. "We are accustomed to the fact that a limb, or even a bone, of a certain build is associated with a whole body of a certain build. We know also that if an animal is breathing we may expect to find its heart beating and all its other organs in a state of more or less evident activity. We associate together the details of structure and activity as those of a living animal; we think and speak of it as alive, and we regard its structure and activities as the expression or manifestation of its life. What I wish to maintain is that in so regarding a living organism we use an hypothesis which is for biology just as intelligible, just as elementary, just as true to the facts known, and just as good a scientific working hypothesis, as is the hypothesis of the indestructibility of matter for physics and chemistry." [1]

[1] Viscount Haldane, *The Philosophy of Humanism and of Other Subjects* (Yale University Press), pp. 208–09. The quotation is from Viscount Haldane's brother, J. S. Haldane, *The New Physiology* (1919), p. 31.

In the mechanistic age, when everything was supposed to be fully explained by its pre-conditions, it was thought that nothing was valuable in itself, but became valuable by being desired. This view is changing now as we have come to see that biology and psychology are independent sciences, in which the laws of physics and chemistry are transcended, though not contradicted. The behavior of living matter can be understood only by ascribing to the organism a value in itself. Both life and individuality seem to be values in themselves. The organism is a structure or unity, in which the parts exist for the whole and the whole for the parts.

When biological science speaks of conditions as "beneficial" or "harmful" for the organism; when it calls some chemical substances "foods," others "waste-products"; when it speaks of the "function" of an organ, or through the concept of "organization" interprets the parts in the light of the whole; when, in dealing with "growth," "behavior," "reproduction," *etc.*, it applies the concept of the maintenance or development of each characteristic type of living structure — its language is full of the kind of teleology which the term "value," or, if it be preferred "objective value," is here intended to cover. Wherever, broadly speaking, the facts challenge us to say, not merely that B is the effect of A, but that B is the *reason why* or *that for the sake of which* A exists or occurs, there we have the *immanent purposiveness* of living things.

When we ask what character in natural objects, or in nature as a whole, exhibits this immanent purposiveness, this "design," most clearly, the answer must surely be that it is *organisation* — not merely in the static sense of a systematic structure of differentiated parts, but in the dynamic sense of this structure at work and functioning as a whole, responding through its organs (which are very literally "instruments") to its environment, adapting that environment to itself and itself to it. A purposive structure, in Kant's famous phrase, is one in which parts and whole are reciprocally means and ends. The subordination of the parts to the whole lies precisely in that delicate mutual adjustment of the parts which, in respect of their functioning, we call *regulative*, and which in form as well as in function yields the characteristic individuality — one might almost say, using the word in the artistic sense, "the effect" — of each living thing. Aristotle went straight to the heart of the matter when he compared this organisation of each living thing to the order of a commonwealth. "And the animal organism must be conceived after the similitude of a well-governed commonwealth. When order is once established in it, there is no more need

of a separate monarch to preside over each several task. The individuals each play their assigned part as it is ordered, and one thing follows another in its accustomed order. So in animals there is the same orderliness — nature taking the place of custom and each part naturally doing its work as nature has composed them." We have here clearly what in the language of modern biology is expressed as "the conception of the living thing as an autonomous unit in which every part is functionally related to every other and exists as the servant of the whole." [1]

Non-mechanical concepts

In the realm of organic life we need have no hesitation in using the word *purposive*. It is a concept as useful in the study of life and mind as is that of motion in physics. Try to understand a political institution, or a social organization, or a commercial enterprise, without the concept of purpose; then see whether you have any better success in understanding the functions and structures of the human body, of the bird's wing, or the instincts of the ant or bee, without this concept. Even the simplest organism *selects* certain things for food and *avoids* other things because they do or do not serve its purpose. Also in the primary division of the cell there is a selective process, by which, when the chromosomes divide, a selection is made from the material in the cytoplasm suitable to its use. The rootlets of the plant select from the soil those elements which serve its purpose. There is purpose in the nest which the bird builds, namely, the hatching and rearing of the young. We can give a detailed account of the mechanism of the bird's movements, the physical forces involved, just as we can of the behavior of the men conducting a political campaign; but these movements and forces do not tell the whole story. Concepts such as matter, motion, cause, and effect are good and wholly pertinent — only they are not sufficient. No doubt the concepts purpose, means, end, value, do not tell the whole story either; but they are quite as necessary as the concepts of mechanics in coming to an understanding of the facts of life. In organic bodies *the part is for the*

[1] Hoernlé, *Studies in Contemporary Metaphysics* (Harcourt, Brace and Company), pp. 159, 160. The quotations are from Aristotle, *De Part. An.*, 645a, 20, and Henderson, *The Order of Nature*, p. 21.

sake of the whole and the integrity of the whole is a value; and this is all that is necessary to give us the teleological or purposive character of nature.

In the organism there is manifest a development from birth to death, a development, too, controlled in the interests of the species to which the individual belongs. The end governs in these respects also, just as it supersedes the relationship of externality. Here the end is no external force or event. It is simply the fundamental character of the phenomenon, a character which endures through succession and change and is present throughout their course, moulding the development to its own purpose. There is apparent discontinuity at moments, there is accident, there is the contingency inseparable from externality. But the tendency remains unfaltering.[1]

Many of the new views of evolution, which have been mentioned, imply the notion of an end or purpose. Orthogenesis, in whatever form it is held, is teleological. When we say that evolution has a *direction*, when it is spoken of as *creative*, as *a struggle for freedom*, as a process of *realization*, as having a *drift*, as *strategical*, as consisting essentially of *coöperation* or *mutual service*, as comparable to the work of an *artist*, as proceeding from the *needs* of the organism — then a teleological world view is implied. It is implied also by all such expressions as *an inner directing principle, an evolutionary urge, a primordial direction and coördination of energies*. Even the phrase *struggle for existence* implies the notion of an end.

Purpose in inorganic nature

Mention was made in a previous chapter of Henderson's study of purposiveness in inorganic nature.[2] Such studies as this are interesting for the reason that, since natural selection has so long been relied upon to disprove purposiveness in the organic world, and since it can have no application to the inorganic world, the presence of purposiveness in the latter would be a real evidence of some fundamental purposiveness in nature generally. Hender-

[1] Viscount Haldane, *The Reign of Relativity* (Yale University Press), p. 324.

[2] Lawrence J. Henderson, *The Fitness of the Environment*, and *The Order of Nature*. Henderson is Professor of Biological Chemistry in Harvard University.

son finds that before life appeared upon our planet there was a peculiar *fitness* of the environment for it, which *appears* to be in the nature of a preparation. We may not be justified in speaking of it as a preparation; but the fitness is apparent and needs an explanation.

Among some of the remarkable illustrations of this fitness, he mentions the presence upon the cooling surface of the Earth of the necessary proportions of carbon, oxygen, and hydrogen, and the peculiar character of their compounds; the great quantities of water and carbonic acid; the nearly constant temperature of the ocean; the ample rainfall; the unique expansion of water at the freezing point, preventing our rivers and lakes from freezing solid in winter; the thermal qualities of water, together with its high specific heat moderating the summer and winter heat of the Earth; and the latent heat and solvent power of water. All these and many other peculiarities of the environment illustrate its unique and remarkable fitness for *life*. "Water, of its very nature, as it occurs automatically in the process of cosmic evolution, is fit, with a fitness no less marvelous and varied than that fitness of the organism which has been won by the process of adaptation in the course of organic evolution."

These are only a few of the noteworthy instances in inorganic nature anticipatory, as it would seem, of life and its requirements. What conclusions are we to draw from such a situation as this? Only one conclusion is possible, as Henderson believes. There is a hitherto unrecognized *order* in nature, whose exact laws we are as yet unable to fathom. It is almost infinitely improbable that the unique totality of properties of the physical elements which provide the maximal fitness for organic life should be the result of accident.

> The connection between these properties of the elements, almost infinitely improbable as the result of contingency, can only be regarded, is in truth only fully intelligible even if mechanistically explained, as a preparation for the evolutionary process. By this I mean to say that it resembles adaptation. . . .
>
> Hence we are obliged to regard this collection of properties as in some intelligible sense a preparation for the processes of planetary evolution.

. . . Therefore the properties of the elements must for the present be regarded as possessing a teleological character.[1]

Mechanism rules throughout the world, but does not rule supreme. There is an organization and order independent of mechanism. Not only is life itself something transcending mechanism, but the tendency toward life is also something transcending it.

But now, how are we to interpret this tendency, this teleological character of the inorganic world? Shall we say that it indicates a purpose, or design? Henderson does not take this further step. His aim is not to interpret in any human terms the order which he finds in nature, but rather to limit himself to the necessary implications of the actual facts which science discerns. He does, however, go so far as to compare the primeval tendency which is discovered through the whole process of evolution to the work of an architect who designs a house.

But perhaps the most interesting of his conclusions is that the Universe is "biocentric." Since, now, there was a time when no life existed on the Earth, this statement can mean nothing else than that the world in its inorganic stage looks forward to the coming of life, is adjusted to it, is in some sense a preparation for it. At any rate, "the properties of matter and the course of cosmic evolution are now seen to be intimately related to the structure of the living being and to its activities." [2]

The interpretation

If, then, nature even in its inorganic stage shows evidence of order, structure, organization, harmonious unity; if in the realm of living organisms, it shows values, ends, and purposes; if evolution is selective, showing direction and coöperation, how finally is all this to be interpreted? Is the world purposive in the sense of being *purposed?* Has it a design in the sense of being *designed?* If so, we must introduce the notion of *mind*, and think of the

[1] *The Order of Nature* (Harvard University Press), pp. 190, 192. Compare also *The Fitness of the Environment*, chaps. VII and VIII.

[2] *The Fitness of the Environment*, p. 312.

world movement as something planned or designed by a mind which can imagine in advance an end or purpose, and in some way *will* it, or create it, or cause it to come into being. The world would exist, then, first as *idea*, and our tendency would be to think of the idea as a kind of efficient cause, or at least as one of the conditions or antecedents of the coming of the world into being.

If we introduce mind as a world cause, it would not, of course, be necessary to think of it in a crudely anthropomorphic form, as if a world-builder, working upon plastic or resistant material, planned, contrived, designed, or manufactured the world after the manner of the old watchmaker theory. We should think of the world as the expression or manifestation of an infinite or absolute mind or self; or we should think of mind as immanent in the world, an indwelling spirit or intelligence working through evolution and the laws of nature in a spiritually ordered world. Practically all our modern idealistic, personalistic, theistic, or pan-psychic systems of philosophy have this great thought in common: The world is essentially rational purposive, and teleological, being the manifestation or expression of an infinite, absolute, or indwelling mind, consciousness, self, spirit, or God. So taught Fichte, Hegel, Fechner, Lotze, Wundt, Paulsen, Bradley, Royce, Bowne; and so are teaching at the present time many of our leading American, French, German, and Italian philosophers. It is not necessary to suppose that the indwelling cosmic mind, the world soul, the divine presence, must work just as our minds do, if we are to call its action purposive. As Bosanquet has pointed out, we may still speak of an action as purposive without considering the "end" as the completion of a serial process in which means and end have a temporal relation. Consider, for instance, any organic product, say a flower.

> It is ridiculous to say that such a product arises by accident; that is, as a by-product of the interaction of elements in whose nature and general laws of combination no such result is immanent, as though we were dealing with the insight of a human contriver, by which the more complex developments and combinations were not anticipated. . . . On the other hand, we must not say that "purpose is operative" in the flower or

the wave, if that is to mean that we ascribe them to an end or idea, somehow superinduced upon the course of their elements by a power comparable to finite consciousness, operating as it were *ab extra*, and out of a detached spontaneity of its own. If the former notion spelt accident, this spells miracle.[1]

The evidence is pretty strong, as we have seen, that the world *is* purposive in the sense of exhibiting order, pattern, "design," organization, structure, value, ends; and certainly the most natural, if not the most logical, explanation of this fact is the presence of mind immanent in the world. That the action of the "divine mind" is ideational, volitional, actuated by desire, like the finite human mind, is not necessarily implied in a purposive world. It is not even implied that such a mind is conscious, if by consciousness we mean that awareness and togetherness of thought which characterizes finite minds. The question of the attributes of creative mind is not, however, before us now; the only problem that concerns us here is whether any better hypothesis is possible to explain the evident purposiveness of the world than the presence of mind either external to and transcending nature or immanent and indwelling in nature. It is significant, indeed, that so careful a scholar and scientist as L. T. Hobhouse says that his later investigations have led him to believe that something of the nature of mind is to be carried further down in the organic world than he has previously believed; and even to raise the question whether mind may not be the essential driving force in all evolutionary change.[2]

The new teleology

Is there, however, any other possible way of explaining teleology than by the assumption of a mind in nature realizing ends through a process of envisagement? No doubt the reader will say there simply is no alternative. *If* there is purpose in the world, there *must* be mind antecedent to the end. But let us see whether this is necessarily true. Possibly it is nothing but an in-

[1] Bernard Bosanquet, *The Principle of Individuality and Value* (copyrighted by The Macmillan Company. Reprinted by permission), pp. 147, 148, 149.

[2] L. T. Hobhouse, *Mind in Evolution*, 2d ed., p. ix. Compare above, p. 101.

veterate habit that leads us to think always of efficient causality and no other kind, a habit much encouraged by our modern devotion to the physical sciences. Why must we always think that a thing is to be explained by what goes before? Why may it not be explained by the end for which it is *indispensable?* Ever since Kant in his striking *Critique of Judgment* taught us that an organism is something in which whole and part are reciprocally determined, philosophers have been puzzling over this strange problem and wondering whether we have a new kind of teleology here. In these concluding paragraphs let us consider this new way of regarding purposiveness in nature, and if the view seems strange and hard to understand, let us consider it merely as an interesting path of promise to be neither hastily rejected nor accepted. Here I wish to quote from Windelband, who has formulated this new teleology very clearly:

> In the provinces of physics and chemistry we naturally express ourselves in mechanical terms: in the province of biology in teleological language. When oxygen and hydrogen combine in the proportion 1:2, we get water; but we may just as well say, if there is to be water, oxygen and hydrogen must, etc. On the other hand, we say that if an organism is to have differentiated sensations of light, it must have a peripheral structure like the eye; and in this case a converse mechanistic expression would not suit our purpose, at least unless we express the invertibility of the causal relation by adding the word "only." Thus we may say: Only at a moderate temperature are organisms produced, and therefore, if organisms are to be produced, a moderate temperature is needed. This form of expression is most frequently found in connection with the complex isolated events of history. Only where we have a spiritual atmosphere like that of Germany in the eighteenth century and a genius like Goethe is a *Faust* possible; in order to have a *Faust* we need, etc.
>
> When we inquire into the correctness of these expressions, we must first make their meaning quite clear. Let us take the classical illustration of the organism. Its vital activity and its development are made possible only by these definite organs and their no less definite functions. But these definite organs and functions are, in turn, only possible in this organism. Hence the whole, which causes the effect, determines the parts which are required for it. They are only in it; and it is possible only through them. In this reciprocal dependence of the whole and the parts Kant has given us the classic definition of an organism. A watch is a whole that may be put together out of preëxisting wheels, etc. But

the organism must itself produce the parts of which it is to consist. From this we get two fundamental types of the construction of a whole: the mechanical and the organic. In the one the parts precede the whole and produce it by being put together. In the organic whole, on the other hand, the parts themselves are conditioned by the whole and are only possible in it. In the organic whole, therefore, the end, which is to come out of it, determines the beginning.

This latter formulation is at first sight too much for ordinary views of causation. The determination of the beginning by the end seems paradoxical and impossible. That the preëxisting should determine the present seems natural enough, though it is not quite so self-evident as it seems at first sight; but how can the future, which does not yet exist, do anything? How can it itself determine the process of an event to which alone it will owe its existence? It seems to be, not merely incomprehensible, but impossible. We may, however, at once weaken the force of these objections by a few general considerations. In the first place, it has already been shown that causal determination by something preëxisting is, though a very common idea, yet one that proves logically incomprehensible when it is closely studied. Then there is another thing. If we, for instance, regard the time-relation as phenomenal, we see that preëxistence or post-existence is merely a thought-form of our restricted intellect, which ought not to make so much of the paradox of teleological dependence; the less so, as this way of looking at things is found to be impossible for certain groups in the phenomenal world. Both Aristotle and Schelling laid stress on this principle of indispensability, and Fichte, when he so clearly grasped that what ought to be is the reason of all being, pointed out the source of the prejudice against teleology: it is based upon the concept of substance and the assumption, connected therewith, that something must exist if anything is to come into being. The opposite conception, which regards *original action* as directed toward its achievement and therefore determined by it, is the true, genuine, and pure teleology of the organic view of the world.[1]

This "true" or "genuine teleology" must not be confused with the other teleology of the designing mind. In this latter we still adhere dutifully to the old causal relationship; only we put the *idea* of the end into the series as an efficient cause. It is not, we say, the coming reunion with my friends at the Christmas fireside that causes me to get the money from the bank and buy my ticket for the train, but the *idea* of the reunion. Certainly

[1] Wilhelm Windelband, *An Introduction to Philosophy*. Translated by Joseph McCabe (Henry Holt and Company), pp. 144, 145, 146.

this is one way of looking at it, this analysis of the elements of the situation into the temporal relation of cause and effect, a way of looking at it highly useful in the physical sciences and the practical arts.

But is there not another way of regarding the whole question, pointing to a deeper understanding of the course of nature? Let us make the daring experiment of thinking that the end actually determines the means. This certainly seems to be the case in the organic world. It seems as if the parts of the eye come into existence in the process of evolution, not because of some material motions among atoms and molecules, but because they are *indispensable* to the act of seeing. No doubt, as Professor Windelband says, this way of regarding nature is difficult for most of us, wedded as we are to the mechanical cause-and-effect way of thinking; but once grasped, this truer teleology may prove to be a kind of revelation.

From this new point of view, form and structure are the realities of the world; matter their mere potency. The world is a process of realization, an achievement. We have called it a kind of creative evolution. Such it is when viewed from any given stage in the evolutionary process; but now we see that its creations are the realization of patterns possessing final value in themselves. This was nearly the view of Aristotle and it is closely related to that of Plato. The world movement is a developmental process, in which matter is taking on form or structure. It is the form and structure, not matter, which are real. Form and structure are ideal realities — that is, values; and they are final causes. Plant and animal species are then final causes; life itself is a final cause; the human species, the mind of man, are final causes. Viewed all along the evolutionary line there is creative synthesis issuing in novelties and new and higher values; but the reason why the things which we have been accustomed to call efficient causes appear is because they are indispensable to the new realities. We may say that Nature is striving toward certain goals — life, individuality, mind, consciousness, social organization, freedom, morality — all of which are values or ends; we may say that it is all a struggle for existence, since these values *are* the

realities of the Universe, the real existences. Such a view, of course, is wholly teleological — only now we are not thinking of Nature or mind as envisaging these values, and then by a series of volitions bringing them into existence; we are thinking rather of these final values as wholes, of which the other things are parts; and we are thinking that the parts exist for and are determined by the whole.[1] Mind, therefore, does not plan the world, does not image it, nor *will* it; and yet mind is the cause of the world, its final cause; for mind is one of the goals or ends toward which nature is tending.

Such a conception of the Universe as this is rather startling in our modern scientific age. It was common enough among the ancients. It reminds us vividly of Plato; but there are many signs of a returning Platonism. Says Paul Elmer More:

> In a general way it may be said that, with natural classes, such as men and animals, the difficulties of the nominalistic view are seemingly the more insuperable, and that, in the slow return of science and philosophy to a dependence on some sort of teleology in the process of evolution, we are forcing ourselves back into a belief in Ideas in something like the Platonic sense.
>
> The apex of our æsthetic experience which was attained by the ascending steps of generalization is now conversely regarded as a creative energy reaching down into the world and imposing upon its fleeting substance the forms and order of stability. And this Cause of being, as contrasted with the not-being of chaos, will become to Plato, particularly in his later years, when in the *Timæus* and the *Laws* he turns from the vexations of metaphysical inquiry back to the less inquisitive faith of youth, simply God.[2]

To put all this very bluntly, is it Push, or Pull, that drives or draws the world onward? It is the *vis a tergo*, the push from behind, that our habitual nineteenth-century mechanistic habit of thought has always emphasized. And yet in humility we realize that even the manner of this push, to say nothing of its *reason*, is unknown. So perhaps after all the world is pulled, not pushed. We are able from our own experience to get a glimpse, at least, of

[1] Compare the profound treatment of this subject in Bernard Bosanquet's *The Principle of Individuality and Value*, chaps. IV, V.

[2] *Platonism* (Princeton University Press), pp. 169, 201.

the manner of an *attractive* force. We know how we are drawn toward beauty and worth. Plato in his doctrine of love has elevated this into a world power. Royce called it the "homing instinct of the soul." Aristotle made a final suggestion that the great Prime Mover, God, moves the world by the power of attraction — as a picture draws us to it.

Peer as deeply and as fixedly as you will into the abysses of your own being, you shall always find therein that it is all and only the Future that determines and in a way creates the Present. At every instant the Past crumbles into nothingness under our feet and we flee from it as from a levee sinking into the Mississippi, while the eternal Future, like the eternal Feminine, draws us upward and on. Not merely, mark you, the immediate Future; in higher and higher consciousness, yea, even in subconscious depths, the voice cries out from the wilderness of the far-beyond; the endless stretches of the ages-to-come catch up the call and plead with impassioned eloquence; the broad opening vistas of time-to-be resound with the hopes and fears, the aspirations and aversions, of the race of man, of the heart of existence itself, and these, yea, these alone it is that guide the bird of history through all her far-homing flight.

We may say, then, that it is To-morrow and not Yesterday that makes To-day what it is. In itself it is no more and no less plausible that the Future than that the Past should determine the Present; but the undeniable fact is that the determinant is the Future and not the Past.[1]

In connection with this chapter read:

Friedrich Paulsen, *Introduction to Philosophy.* Translated by Thilly (Henry Holt and Company), pp. 145–80.

John E. Boodin, *A Realistic Universe* (The Macmillan Company), chap. XVIII.

Further references:

James Ward, *The Realm of Ends.* (G. P. Putnam's Sons.)

L. T. Hobhouse, *Development and Purpose.* (The Macmillan Company.)

J. S. Haldane, *Mechanism, Life, and Personality.* (John Murray.)

Jacques Loeb, *The Mechanistic Conception of Life* (University of Chicago Press), chap. I.

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[1] William Benjamin Smith, "Push? or Pull?" *The Monist* (Open Court Publishing Company), vol. 23, p. 33.

Bernard Bosanquet, *The Principle of Individuality and Value* (The Macmillan Company), lecture IV.

Roy Wood Sellars, *Evolutionary Naturalism* (The Open Court Publishing Company), chap. XV.

Joseph Alexander Leighton, *Man and the Cosmos* (D. Appleton and Company), pp. 272–76.

A. Seth Pringle-Pattison, *The Idea of God in the Light of Recent Philosophy* (Oxford University Press), lecture XVII.

R. F. Alfred Hoernlé, *Studies in Contemporary Metaphysics* (Harcourt, Brace and Company), chaps. VI, VII.

Lawrence J. Henderson, *The Fitness of the Environment* (The Macmillan Company) and *The Order of Nature* (Harvard University Press).

Howard C. Warren, "A Study of Purpose," *Journ. of Phil., Psy., and Sci. Meth.*, vol. 13, 1916. Three articles, pp. 5, 29, 57.

William Benjamin Smith, "Push? or Pull?" *The Monist*, vol. 23, pp. 16–41.

Francis B. Sumner, "Adaptation and the Problem of Organic Purposefulness," *American Naturalist*, 1919.

J. Arthur Thomson, *The System of Animate Nature* (Henry Holt and Company), vol. I, lecture X.

CHAPTER X

THE PROBLEM OF GOD

Our widening view

No doubt every writer upon the God problem approaches the subject with diffidence and hesitation. What is true of all philosophical problems is particularly true of this. There is a demand of the human mind to penetrate to the very outer regions of truth, but the task becomes more and more difficult as we approach these farther regions. Dogmatism is out of place here and faith is necessary; not faith, perhaps, in any generally accepted view, but faith in the real progress of science and philosophy toward the solution of the problem. There is always hope so long as we can feel that we are actually widening our view and increasing our knowledge about God. Certainly wonderful progress has been made in recent years in science, philosophy, and religion in coming to a better understanding of this subject.

There has been a slow and gradual evolution of the idea of God from the very crudest notions of primitive man to the larger and truer conceptions of the present. One thing which makes this subject very difficult for us is that somewhat the same evolution of the God idea takes place in the mind of the individual that has taken place in the history of mankind. As we outgrow our childish notions, a period of readjustment is necessary which is often the occasion of perplexity and even of skepticism. Notwithstanding all these difficulties, there are certain things to be said in this chapter which should bring to the student of philosophy some assurance and comfort. We recall Francis Bacon's saying that it is a *little* philosophy which leads to atheism.

Methods of approach

There are several methods of approach to the God problem, many of them quite beyond the compass of an introductory book on philosophy. The subject may be approached from the

standpoint of one's own individual religious experience. It may be approached from the standpoint of religious faith in the teachings of the church or religious authority. It may be approached from the standpoint of profound philosophical reflection.

In a short introductory chapter such as this the God problem cannot be studied in any of these ambitious ways; but it may be stated, the terms may be defined, and some of the older and some of the more recent views may be given. Oftentimes we are more interested to know what the great men of the world, the philosophers and the poets and the scientists, have thought and said about God than we are in tracing through a subtle argument to prove or disprove his existence. And we are all anxious to know whether the methods and results of science, in which we have such unbounded trust, have any bearing on the subject, and if so what this bearing is. Perhaps the most important thing of all is to find out just what we mean, or ought to mean, by the word God.

Authority has been so much abused in the history of religion that we have come to rebel against this method of instruction; yet after all for most of us authority counts more than argument, especially if it is the authority of our own particular saints, be they religious teachers, philosophers, poets, scientists, or men of affairs. For instance, it is to many interesting and perhaps convincing to know that Lord Arthur J. Balfour, formerly English Premier and more recently head of the English delegation to the Disarmament Conference at Washington, among his other philosophical works has written a book called *Theism and Humanism* in which he bases the necessity for God upon three spheres of human thought and action, namely, ethics, æsthetics, and the principles of knowledge. Others find their faith in God strengthened when they recall that Browning, in his earliest long poem written at the age of twenty-one, exclaimed, "Sun-treader, I believe in God and truth and love," and that then, after a long life rich in human experience, he wrote in his "Francis Furini":

> Though Master keep aloof,
> Signs of his presence multiply from roof
> To basement of the building!

Others, again, like to trace the God idea through the history of races from the earliest primitive tribes to our present civilized peoples, or to follow it in the history of philosophy from Plato and Aristotle to Josiah Royce or William James. This insurgence of the God idea in almost every philosophy, ancient or modern, and this saturation, so to speak, of popular as well as religious thought with God stimulate our interest and curiosity in this problem. We long to have it made clearer, and to learn of the attitude toward it of our modern scientific and philosophical thinkers.

Definition of terms

The prominence of the idea of God in the history of thought is shown by the richness of the vocabulary. We should become acquainted with the exact meaning of some of the most important terms. *Theism*, from the Greek word for God, is the term applied to the common belief in God as a personal, spiritual being with whom it is possible to come into intimate relations. *Deism*, from the Latin *deus*, is a term applied to the beliefs of a school of eighteenth-century thinkers who accepted the existence of God as creator and lawgiver, but who distrusted the personal relationship and who denied the possibility of miracles. *Pantheism*, from two Greek words meaning all and God, is the doctrine that God is all and all is God; God is identical with Nature or with the world. *Polytheism* means any system of religion or doctrine that recognizes a number of gods or many gods; *Monotheism* is a system that insists that there is only one God. *Atheism* is the name applied to a consistent attempt to deny or disprove the existence of God. Atheism in modern thought has largely given place to the more modest doctrine of agnosticism. *Agnosticism* teaches that human knowledge by its very nature is limited, and attempts to describe the kind of limitation it finds characteristic of our knowledge. In any case it finds knowledge of ultimate reality impossible, and therefore, of course, knowledge of God impossible.

Philosophy, however, although it may not be able to penetrate very far into the mystery of God, must not shrink from the at-

tempt. It can at least investigate the meaning of God in human experience, and it can ask whether the belief in such a being is consistent with the science and philosophy of the present day, and whether it answers to any actual need in our experience.

In former times there were three famous arguments for the existence of God — the cosmological, the ontological, and the teleological arguments, seeking to prove to unbelievers that God exists because the world exists, and must have a cause; because the idea of God exists, and must have a ground; and because of evidence everywhere in nature of his benevolent design. These have ceased to interest us. Kant, believer in God, showed the weakness of these proofs. Philosophy now limits itself to the more gracious task of determining the meaning of the God idea and inquiring whether in the outer world of science or the inner world of experience there is anything which calls for or answers to this meaning.

God in human experience

What, then, does the word *God* mean to us. At the very first, when we begin to reflect carefully about this subject, we see that we must distinguish between the way we image or visualize God, or think about him in our everyday thought, and the meaning which we attach to the word, when we reflect seriously about him. Influenced by paintings which we have seen in childhood, or by the vivid imagery of Milton's *Paradise Lost*, we think of God in human form, magnified, perhaps, and glorified, but having human attributes both of body and mind. *Anthropomorphism* is the technical term which describes this common tendency to give to God the form of man. Xenophanes, an early Greek philosopher-poet, bitterly complained that human beings think of the gods in human form. Modern critics have also ridiculed the anthropomorphic habit, not, perhaps, always realizing that those who practice it do not take it too seriously; for when asked, first, what they mean by the word *God*, and, second, how they think of him, the results in the two cases are found to be quite different. The criticism also has been made that in referring to God we use the pronouns *He* and *Him*, with the implication that

God is masculine. Evidently this, too, should not be taken too seriously. We have no pronoun which can be applied to a *person* who is neither masculine nor feminine, and he and him are of course used generically in this case. The Christian Scientists speak graciously of the Father-Mother God.

What most people *mean* when they use the word *God* is a supernatural being, spoken of as a Spirit, who is righteous and supremely powerful, who has a certain control over our destiny, and with whom we may come into friendly relations, if our own character and attitude are right. They regard him, perhaps, also as the creator of the world, and as moral lawgiver and judge, and believe that he is everywhere present in the world as an indwelling presence.

An analysis of this or any current conception shows that the God idea resolves itself into the idealization of certain fundamental and characteristic values which have ranked high in human experience, particularly *power*, *righteousness*, *love*, *justice*, and *personality*. These are the things which appeal to us as of supreme worth, and God is the embodiment or personification of these ideals. In our own lives, which have from the beginning been social, we have experienced the joy of power when we ourselves exercise it, and the fear of it when exercised by others. As for righteousness, it has been the very condition of all social life; only by its practice can men live together in social groups. Love is equally fundamental in human intercourse, not only in the family, but in the form of coöperation in the community; while justice, which is the adequate adjustment of rewards and punishments to conduct, answers to a deep inner demand of the heart.

But we live not only in a social world; we live in the presence of objective nature. We are its product, its children, perhaps its puppets. God, then, is that mysterious and unknown Power, fearful yet friendly, which manifests itself in the productive power of nature, in life and death, in the raging storm, in the vast ocean, in the deadly flash of lightning, in the beneficent life-giving sunshine, in the timely rain. God is fearful, yet friendly. He made the world and made us. He demands righteousness and justice; yet ultimately he has a kindly attitude toward man,

responding to his prayers. It is no doubt due to our efforts to give expression to these ideal excellences that it has been customary to give God such attributes as Absolute, Eternal, Infinite, Omnipotent, Omniscient, and Omnipresent. These terms, formerly much used, may be regarded as so many superlatives by means of which we attribute to God power, knowledge, and presence *very* great. In our present-day dynamic vitalistic manner of thinking we prefer to think of God as a vital energy, an upbuilding, creative, integrating power.

But while these two ideas of God, as the personification of all ideal excellences and the embodiment of natural forces, have predominated in religious thought, they do not quite express the whole meaning. God, to many, perhaps to finer souls like that of Emerson, is the Over-Soul, "the wise silence, the universal beauty, the Eternal One," while to Wordsworth he is "a presence that disturbs me with the joy of elevated thoughts; a sense sublime of something far more deeply interfused, whose dwelling is the light of setting suns, and the round ocean and the living air, and the blue sky, and in the mind of man; a motion and a spirit that impels all thinking things, all objects of all thought, and rolls through all things." Wordsworth, therefore, needs no proofs of God, for he is *felt*, and felt as a *presence*, a presence disturbing, yet disturbing with the joy of elevated thoughts.

The Mystics of all ages, whose intuitions and inner perceptions point rather to a real form of human experience than to any pathological states of mind, have in a similar way felt and experienced God rather than thought or reasoned about him, and felt him as *life* or *love* or *infinitude*.

William James and the divine MORE

Thus far, then, in this chapter we have learned nothing definite at all as to whether God exists or not. We have merely noticed something of the importance of the problem in the history of human thought, and we have seen in general what the meaning of the God idea is to common people, to the poet and to the mystic. Let us now try to learn something of the attitude of science toward the subject and the attitude of philosophers of the

present day. James's method of approach to the problem may be our first concern. It is in the concluding chapter of his remarkable book, *The Varieties of Religious Experience*, and in his essays, "Is Life Worth Living" and "Reflex Action and Theism," the last two found in his book, *The Will to Believe*, that James gives us his most significant thoughts about God and ultimate spiritual reality.

James does not proceed by the old method of displaying grounds for one's belief. Rather he reminds each of us of our own experience of God. Dr. Cabot in his book, *What Men Live By*, says the four things we live by are work and play and love and worship. So James shows us by the pragmatic method that God is what we live by. In many of our experiences, we seem to touch another dimension of existence than the sensible and merely "understandable" world. Call it the mystical or the supernatural or the unseen world, as we may, or merely some kind of extension of our subconscious mind, nevertheless we feel a real connection with it, we get real power from it, and in it find the source of our ideal impulses. This strong feeling, or even conviction, which so many of us have that this natural world, this world of wind and water, is not the whole of reality; but that it is, so to speak, soaking in or is bathed in another order or another kind of reality to which we may give the name *spiritual* or *ideal*, seems, so James thinks, to be pragmatically verified by its results.

The notion that this physical world of wind and water, where the sun rises and the moon sets, is absolutely and ultimately the divinely aimed-at and established thing, is one which we find only in very early religions, such as that of the most primitive Jews. It is this natural religion (primitive still, in spite of the fact that poets and men of science whose good-will exceeds their perspicacity keep publishing it in new editions tuned to our contemporary ears) that, as I said a while ago, has suffered definitive bankruptcy in the opinion of a circle of persons, among whom I must count myself, and who are growing more numerous every day. For such persons the physical order of nature, taken simply as science knows it, cannot be held to reveal any one harmonious spiritual intent. It is mere *weather*, as Chauncey Wright called it, doing and undoing without end.

Whatever else be certain, this at least is certain — that the world of

our present natural knowledge *is* enveloped in a larger world of *some* sort of whose residual properties we at present can form no positive idea.

That the world of physics is probably not absolute, all the converging multitude of arguments that make in favor of idealism tend to prove; and that our whole physical life may lie soaking in a spiritual atmosphere, a dimension of being that we at present have no organ for apprehending, is vividly suggested to us by the analogy of the life of our domestic animals.[1]

Call it, if you please, just "a stream of ideal tendency," but unless there is such a stream it is difficult to account for the sources of all those ideals which make life worth living. That we live by these ideals is strictly true. In our experiences we distinguish a lower and a higher part of ourselves and we feel that this higher part is in some way continuous with MORE of the same quality. This divine MORE is exterior to us, and yet we are in some way connected with it, in some kind of harmony with it, and upon this harmony our peace and security rest. "The visible world is part of a more spiritual universe from which it draws its chief significance," and to the spiritual world we give the name God.

If, now, it be replied that all this is mystical and points only to subjective and abnormal experiences of individuals and will not stand the test of science, James proposes this remarkable test: "So long as we deal with the cosmic and general, we deal only with the symbols of reality, but as soon as we deal with private and personal phenomena as such, we deal with realities in the completest sense of the terms." If this strikes any of us as reversing the true order, we must remember that the concepts which science uses and which seem so real to us — such, for instance, as matter, energy, ether, atom — are only symbols of reality which are useful in explaining the facts of experience.

God in the science and philosophy of the present

Now, this picture which James gives us of a world of spiritual reality beneath or beyond this physical order, a world which, in-

[1] William James, *The Will to Believe* (Longmans, Green and Company), pp. 52, 54, 57, in the essay "Is Life Worth Living?"

deed, gives to the physical world its significance and value, no doubt seems to us very beautiful and perhaps true. But to many of us it will seem rather poetic and perhaps too religious, lacking scientific support, and we shall probably demand a firmer and more definite basis for our belief in God. We would like to know the attitude of present-day science toward the God idea, and the attitude of our modern hard-headed and "tough-minded" realistic philosophers. We know, of course, that the idealistic philosophers and the ethical philosophers and the theologians have less difficulty with the problem of God. We know that Plato with his *Idea of the Good;* Aristotle with his *Prime Mover;* the Stoics with their *Providence;* the neo-Platonists with their *Ineffable One;* the Hebrews with their *Jahveh, the righteous lawgiver;* the Christians with their *Christ, the beloved Redeemer;* the Churchmen with their *God the Creator;* Spinoza with his *one Substance, God, and two attributes, mind and matter;* Berkeley with his *Father of Spirits;* Kant with his *Moral law and God its sanction;* Hegel with his *Absolute Idea;* Eucken with his *Spiritual Life;* Herbert Spencer with his *Infinite and Eternal Energy;*[1] Bradley and Royce with their *Absolute Experience* — that all these find God as the very ground or substance of the world. But we are not quite sure how far we can trust all these men. Our faith in them is great, but it weakens if we mistrust that their views are not found in agreement with the science of the present day, for our faith in this is still greater.

A few pages above we spoke of what God means in human experience — the personification of all our superlative excellences, the embodiment of the primeval powers of Nature, the not-ourselves which makes for righteousness, the Over-Soul, and the divine MORE. Here we are on solid ground; this is what God does really mean to us, but what we want to know is whether this God exists.

[1] "But one truth must grow ever clearer — the truth that there is an Inscrutable Existence everywhere manifested, to which he [the man of science] can neither find nor conceive either beginning or end. Amid the mysteries which become the more mysterious the more they are thought about, there will remain the one absolute certainty, that he is ever in presence of an Infinite and Eternal Energy, from which all things proceed." — Herbert Spencer, *Principles of Sociology* (D. Appleton and Company), vol. III, p. 175.

Well, anyway, we have discovered one ground for believing in God's existence in James's striking test, when he shows that in physical science when we deal with matter, motion, and energy, we are dealing with certain symbols which are useful in interpreting the facts of outer experience, while in the case of our private and personal phenomena as such we are dealing with realities in the strictest sense.

Would it be possible, however, to formulate some conception of God which would be in complete harmony with present-day science and philosophy and at the same time express what God actually means in human experience? Ex-President Eliot attempted such a formulation as follows: God is an "omnipresent eternal energy, informing and inspiring the whole creation at every instant of time and throughout the infinite space." The word "energy" fulfills our desire to ascribe *power* to God, the word "informing" expresses his moulding and creating activity, while the word "inspiring" suggests that God is the source of *values.*

Could these ideas be expanded and made explicit in the following formula?

God is the soul of the world, an indwelling spiritual presence, a creative, organizing and perfecting power, the source of our moral, religious, and æsthetic ideals.

This, perhaps, is nearly what God means to us — a spiritual presence, a creative power, an exponent of righteousness, beauty, and love. Do science and philosophy confirm us in the hope that such a being really exists?

In the preceding chapters, as we have been studying the nature of life and its evolution, we have seen that it is necessary to assume some creative agency at every stage of the evolutionary movement, not only in the original organization of atoms into molecules and of molecules into living cells, but also of living cells into higher and higher forms of life — all the way up to man. Evolution is a creative process and implies some organizing, integrating, and perfecting agency. It has even been suggested that there is a present-day creation of matter from simpler

elements, and the constant creation of life at the organic level.

It would seem, if we would speak of elemental things, that the direction and coördination of energies is as elemental as the energies themselves. In the scientific thought of the day the energy concept is very fundamental. Matter itself may be reducible to energy. But the energy concept itself is full of difficulties and uncertainties. It is a symbol, useful in science, standing for whatever it is that effects changes and does work. Its expressions are quantitative rather than qualitative, and if we ask what energy really *is*, physical science cannot tell us. The hypothesis that that mysterious thing which we call energy is something psychical, something like mind, has, as we shall learn in a succeeding chapter, been a favorite one in philosophy and has often been proposed by physicists themselves. Such an hypothesis as this would give us an idealistic view of the world, reducing the whole "physical" Universe to "mind-energy" — and this mind-energy would be God. This view seems to harmonize science and religion, and has, of course, been held in many of our great systems of philosophy.

Lofty and inspiring as this world view is, it seems to me that the tendency is somewhat away from it now. This is not what God *means* to us in actual human discourse. "'God,'" says James, "in the religious life of ordinary men, is the name not of the whole of things, heaven forbid, but only of the ideal tendency in things, believed in as a superhuman person who calls us to coöperate in his purposes, and who furthers ours if they are worthy." [1] However fundamental the energy concept may seem to us, there are other concepts which are equally profound. There is something in the Universe perhaps more elemental than either energy or matter, namely, the *direction* of energy. Just as in psychology we have learned that there is something more elemental than sensation, perception, and thought — namely, impulse, the conative tendencies, hunger, and craving; and just as in biology we have suspected that deeper than organic life itself there is some elemental struggle for life, so in the whole world I

[1] William James, *A Pluralistic Universe* (Longmans, Green and Company), p. 124.

think we may believe that there is some original impulse which is making for order and structure and life and mind — and perhaps for righteousness. These are the eternal values. God, therefore, is not energy, but *creative activity;* and not merely creative activity, but "ideal tendency."

The human mind is so constituted that it must believe in progress. Progress of some kind there must be, if it signifies only those orderly changes toward greater complexity and higher organization which go by the name of evolution. But there is evidence that evolution in the broader sense means more than this. It means, according to Edwin Grant Conklin,[1] not merely orderly and progressive change, but progression toward increased coöperation and specialization. It means, according to William Patten,[2] that there is a common creative agency, a progressive, creative, constructive process, looking always toward coöperation and mutual service. Deeper down in the roots of the evolutionary movement than the ruthless struggle for existence, there is another power at work, whose aim is constructive, altruistic, and benevolent.

We seem justified, therefore, in saying that there is in the world some fundamental agency whose work is that of an integrating, organizing, perfecting power — a power that works for wholeness, for unity, for individuality, perhaps for coöperation and righteousness. Underneath all our over-beliefs "rests the basic fact that God exists — that there is an Ideal working itself out in the historic process, a great Power irresistibly drawing us on to some far-off and unknown goal, and demanding our entire allegiance." [3]

God as the source of ideals

Finally, have we any grounds for believing that God is the source of our moral, religious, and æsthetic ideals? Well, these ideals exist in man, and man is a part of the world. Some source of these ideals there must be. History seems to be a process of

[1] See his book, *The Direction of Human Evolution*, referred to above, p. 140.
[2] See his book, *The Grand Strategy of Evolution*, referred to above, p. 136–40.
[3] Durant Drake, *Problems of Religion*, p. 147.

the realization of ideals. Although present social, political, and economic conditions are probably better than they ever were in the past,[1] they seem very imperfect to us, and we are dissatisfied with them. Our ideals are always above our practice. We complain about the social injustice of our present social order and are making great and successful efforts to correct it. Yet, as we look back, we see no age so advanced in this respect as our own. In the days of slavery, we envisaged freedom and won it. In the days of economic slavery, we envisaged economic freedom and are winning it. Through this vision of ideals and the struggle to realize them, we have gained the emancipation of our women from an absurd position of inequality; we have asserted the right of our children to be freed from labor and to have the privilege of education. We have protested against autocracy and affirmed the principles of democracy; and now we are hoping to abolish war and devise some system of international coöperation. Any reader can multiply at will illustrations of the progress of humanity in the realization of ideals.

But whence come these ideals? Do we create them as we go along? If so, evolution is again creative, and creative of values, moral and æsthetic, than which we can conceive of nothing higher. If science permits such an interpretation of the world process, surely religion should be satisfied, for a creative energy such as this meets our conception of the divine.

But are the values, on the other hand, not created as we go along, but eternal types, patterns, verities, realities, essences? Is there a system of *ideal values*, in which our ideals "subsist," using the language of recent writers? There is a perennial appeal in the ancient Platonic teaching. We may think of these ideal values as not only real, but as possessing agency or efficiency, "an efficiency which would seem to be confirmed by the fact that human beings are *actuated by ideals that have never yet received concrete existential form.* For who would be so rash as to maintain, e.g., that any society of men has ever yet attained the ideal of an

[1] We shall in the following chapter find reasons for believing that this is true. A World War may easily introduce a degree of political, social, and even moral chaos for a time.

organization in which perfect justice is rendered to all? Yet who among thinking men denies that this ideal is something to struggle and to strive for? And upon whom does the efficiency of this ideal not fall with compelling force?" [1]

It would seem, therefore, that the conception of God as the soul of the world, an immanent spiritual power, a creative and perfecting agency, the source of our ideal values, may give us a helpful notion of God, which shall be consistent both with science and philosophy and with the meaning of the word *God* in common speech.

The spirit that denies

Our modern world has placed great emphasis upon the energy concept. We are living just now in the biological age, and the ideas of activity, growth, struggle, development, achievement, have become almost an obsession. We want to control everything and to govern. We want forever to create something new, and we judge of the value of anything by what it can *accomplish*. Efficiency is the idol of the age, and the God we believe in is an efficient God. The ancient Greeks looked at all this differently. They thought that the world of higher realities was not one to be made or achieved, but one to be contemplated, appropriated, and enjoyed. They looked up to the things that be, not forward to the things that are to be made, and they looked up with wonder, admiration, and even worship, desiring not to conquer, but to understand and enjoy.[2] There is something about this older Greek notion of limits which commends itself to us. Our modern gospel of efficiency has been quite disappointing in its results. The twentieth century sees threatening clouds of doubt rising to trouble us. Our doctrine of an efficient God does not now seem quite adequate. We feel more like emphasizing other divine attributes — not God's infinity, omniscience, and omnipotence as in former times, but rather the ideal values which after all constitute God's chief meaning to us; and we are beginning to

[1] E.G. Spaulding, *The New Rationalism* (Henry Holt and Company), pp. 516–17.

[2] This thought has been developed in a forceful manner by George P. Adams in his admirable book entitled *Idealism and the Modern Age*.

see that the ideal values are not energy of the efficient type, but power of the integrating type, and harmony and balance and unity and proportion. God is righteousness and God is love. Yes, possibly God is even "the spirit that denies."

For the last fifty years, under the influence of Darwin and his doctrine of variation, struggle, and survival of the fittest, we have come to over-emphasize the affirmative, self-assertive, and self-expressive virtues and to prize too little the virtues of restraint and self-control and balance and sacrifice. It was in the form of a reaction against an over-repressive age that William Blake a hundred and fifty years ago launched his new gospel of vitality and affirmation. It is the devil, he taught, not God, who says, "Thou shalt not." Since then a host of writers have held aloft the flag of revolt against law and convention and authority and tradition and the repression of our deepest instincts and longings. The absolute which they worship is "the absolute affirmation of energy," which until the close of the Great War dominated the world. Rousseau and Nietzsche and Ibsen and Bernard Shaw and Bergson and Browning have been the leaders in the philosophy of energy and affirmation. In Nietzsche, the "Yes-sayer," it appears in its extreme form. Let us say "Yes" to our desires, to our instincts, to our natural passions, to our inner needs. Let us say "Yes" to our longings for empire, to our *Kultur*. Let us say "Yes" to our political, economic, and commercial ambitions. Let us say "Yes" to our individual traits, to our budding genius, to our personality, to our need of self-expression.

> And the sin I impute to each frustrate ghost
> Is — the unlit lamp and the ungirt loin.

But the philosophy of expansion and affirmation has not turned out so well in practice as we had hoped. The Great War was its fruit, and the events since the war have still further shown its defects. And so we are coming to emphasize somewhat less the notion of efficiency and energy and somewhat more that of measure and reason; and I think we are beginning to understand that God is not a mere creator in the sense of a moving cause or an evolutionary urge but rather the creator in the sense of a constructive, integrating, and perfecting power, the

power which makes for wholeness and beauty and truth and righteousness — yes, also, for restraint and harmony and obedience and love and coöperation. The presence of such a power in the world helps us to understand not only the ideal tendency in things, not only the vision of ideals in the soul of man, but it clarifies immensely the coming and the progress of life in nature and its evolution to higher and higher forms. *How* this agency becomes effective in nature perhaps we cannot yet determine, but at least some difficulties might be met if we should think of it not as a driving force but as a drawing power.

In connection with this chapter read:

Irwin Edman, *Human Traits and Their Social Significance* (Houghton Mifflin Company), chap. XII.

Further references:

Arthur C. McGiffert, *The Rise of Modern Religious Ideas* (The Macmillan Company), chaps. X, XI, XII.

William E. Hocking, *The Meaning of God in Human Experience.* (Yale University Press.)

Josiah Royce, *The Conception of God.* (The Macmillan Company.)

Arthur J. Balfour, *Theism and Humanism.* (George H. Doran Company.)

A. Seth Pringle-Pattison, *The Idea of God in the Light of Recent Philosophy.* (Oxford University Press.)

Richard La Rue Swain, *What and Where Is God?* (The Macmillan Company.)

John Fiske, *Through Nature to God.* (Houghton Mifflin Company.)

G. A. Coe, *Religion of a Mature Mind* (Revell, Chicago), chap. XIII.

James Ward, *The Realm of Ends.* (G. P. Putnam's Sons.)

James B. Pratt, *Psychology of Religious Belief* (The Macmillan Company), chaps. IX, X. Also *The Religious Consciousness* (The Macmillan Company), chap. X.

Francis J. McConnell, *The Diviner Immanence.* (Eaton and Mains.)

Arthur K. Rogers, *The Religious Conception of the World* (The Macmillan Company), pp. 121–97.

Grant Allen, *The Evolution of the Idea of God.* (Henry Holt and Company.)

Durant Drake, *Problems of Religion* (Houghton Mifflin Company), chap. IX. Also "Seekers after God," in *Harvard Theological Review*, January, 1919.

CHAPTER XI

PESSIMISM

Is there a problem of evil?

The existence of evil is one of the older difficulties which has caused perplexity to students of philosophy through all the centuries from the earliest times. The author of that ancient dramatic masterpiece called the Book of Job was perhaps the first to labor with the problem. Sophocles — he who "saw life steadily and saw it whole" — still wondered how the gods could look down complacently upon so much suffering and sorrow; and later, in Persia, Omar gave up the riddle of explaining human sorrows and proposed the easier method of drowning them in the "juice of the vine." [1]

At the present day the problem of evil has to some extent lost its historic interest, partly because, owing to the economic revolution bringing great increase of wealth and material comforts, and owing to the advancement of science with its partial conquest of disease and pain, there are actually fewer evils to explain; partly also because, in the conquest of nature and in the possession of new continents, mankind has been too busy to think about its evils; and finally, because the theory of evolution has changed the whole idea of "creation," disclosing a wholly new scheme of things in which evil has its distinct place. Later writers are no longer asking why there should be evil in the world, but why there should not be. The modern point of view is different from the ancient. The ancients, with their contemplative attitude toward nature, simply *saw* the evil, *wondered* at it, and tried to *explain* it; we, with our more pragmatic minds, granting that there are still evils a plenty all about us, propose the task, not of explaining them, but of overcoming them. As one writer says:

[1] If any one contemplates making experimental trial of Omar's method of solving the problem of evil, it would be well first to read Chesterton's essay, entitled "Omar and the Sacred Vine," in his *Heretics*.

Modern thought takes evil, not as a given fact, but as something which is capable of being transformed, and made to be that which we choose to have it be. It does not find the world good or bad. It sets out to *make* the world good, and it is able to do this because it has the source of good within a self who can master events.[1]

The difficulty stated

Nevertheless, we must see whether there *is* a kind of problem here, and if so whether it resists solution. A very popular way of dealing with the subject is simply to say that evil is a "mystery"; that it must have some place in the divine plan, but that this is hidden from mankind: perhaps evil is just disciplinary. Possibly there is here a quaint survival of the ancient fear of the jealousy of the gods, a feeling that it is safer not to be too inquisitive about such things. But the student of philosophy cannot take either this timorous attitude toward the subject or that self-confident one of the pragmatist just mentioned. He must probe and inquire endlessly, shrinking from no interrogation.

Any one who writes upon the philosophy of good and evil encounters a peculiar difficulty. It is this — that the sympathy of the reader is almost always with the one who speaks of the sorrows of the world rather than of the joys. The optimist, or even the meliorist, has at the very start a handicap. No one likes to be told what a good world this is. A pessimist has been defined as a man who has to live with an optimist. This powerful *conviction* in the minds of so many that there is something essentially wrong with the world is *one* fact that must be reckoned with whether we will or not. I shall, therefore, in the pages to follow, point out some of the grounds for believing that the presence of evil in the world — even a good deal of it — does not justify any arraignment of Nature or of God. But I hope that I may present these reasons without dogmatism, reserving to a later paragraph a recognition of unsolved factors and of the presence of certain unanswered psychological problems. Perhaps the pessimist will go thus far with me that he will see the force of certain arguments for a brighter world view. Meanwhile the query may abide with us whether our conviction of the

[1] Arthur Kenyon Rogers, *The Religious Conception of the World*, p. 256.

essential evil of the world does not arise from the fact of the very large *demands* that we make upon life.

This is the way the difficulty is usually stated: If God created the world, or if he sustains, manages, or supervises it, and if God is infinitely good, how shall we explain all the pain and evil, all the sin and sorrow and suffering, and all the thwarted plans and disappointed hopes which are evident everywhere? If he could not prevent them, he is not God; if he could and does not, he is not good.

The whole argument rests upon an anthropomorphic view, as if God in heaven, contemplating the creation of a world, sits down to meditate on what kind of a world to make, and then foreseeing all the sin and evil and the pain and suffering and sorrow, nevertheless with malice aforethought issues the creative fiat.

But the world did not come into being in any such way. Just as soon as we cease to think of it as a "plan" and begin to think of it as a growth, a development, *a realization of values*, our difficulties begin to disappear. It all seems different when we think of God no longer as a monarch, but as the power which makes for righteousness, perhaps working with us to overcome every obstacle to good. As higher and higher levels of good are successively realized, the lower levels become evils. In geological time, when only simple forms of animal life were found upon the earth, the evils of which we so bitterly complain did not exist. When man arrived with his power of rational thought, God did not create the evils, nor did man create them, nor even discover them. He discovered a better way of doing things, whereupon the older way became an "evil." Social organization and coöperation, for instance, represent a better way, a new value; whereupon egoism and narrow individualism become evils. With our widening social and economic interests, internationalism represents a new value, so that a selfish nationalism becomes an evil. In early times war served a purpose in making social groups strong and sturdy; now conditions have changed, and war is under judgment and will have to go. Sympathy and love are values of the highest order, as are personality, rational and voluntary choice, and conscience. It seems as if Nature has labored

to bring them forth; when they were born, the older ways became evils.

As we advance, the virtues of one age become the vices of the next. We get very sensitive, critical, conscientious, as new ideals disclose themselves. Some years ago Professor Ross wrote a book called *Sin and Society*, describing a brand-new set of sins which changing social conditions had brought forth, many of them hitherto being merely customary practices.

This does not mean that good and evil are just relative terms. It seems rather that there are certain ideals to be attained, and in struggling to attain them obstacles are encountered. These obstacles are real, and offer real resistance to the good; they must be overcome.

Moral evil

It has sometimes been the fashion to catalogue the evils of the world under three classes: first, metaphysical evils or imperfections in nature, such as earthquakes, cyclones, drought, and flood; second, physical and mental evils, such as pain and suffering and death; and third, moral evils, such as sin and wickedness. By enumerating and parading these, a pretty severe indictment may be drawn against Nature, or against God as creator.[1]

Of these three classes, moral evil is clearly the worst. We are amazed sometimes at the revelations of wickedness in every part of the world: injustice and cruelty, greed and hate, vice and crime, domestic tangles and divorce, exploitation of labor and oppression of the weak, murder and theft, smuggling and bootlegging, intemperance and drunkenness, gambling and prostitution, bribery and adulteration, avarice and profligate spending, and unashamed and unrestrained revelry and frivolity. Talk about such a world being the best possible one, or even a good one, or even a decent one!

Probably no philosopher now would be interested to show that

[1] Such an indictment may be found, for instance, in John Stuart Mill's *Three Essays on Religion*, pp. 28 ff., or in A. J. Balfour's *Foundations of Belief*, pp. 33, 34. In Bertrand Russell's "A Free Man's Worship," in his *Mysticism and Logic*, chap. III, may be found a more recent plaint over a "pitiless" and "hostile" world.

this is the best possible world, but the mere enumeration of a list of sins such as these is no proof that this is not a good world, or even the best one possible. It would be still easier to enumerate a list of virtues; they are so obvious that they would not be interesting. A list of crimes always makes better reading, because they are the striking exceptions to the daily life of a given time. "Sins" appear at that stage of evolution when man emerges as a moral being. Had the evolutionary process been stopped at that level, there would have been no moral evil in the world, but such a world would not have been as "good" as this one. There would have been no sin, to be sure; but there would have been no moral conduct of any kind, only animal behavior and instinctive action. A moral order involving conscience, freedom, rational choice and growth, seems better.

The point of view is now different

If you or I had the task of planning a world, we should hesitate, after thinking it over, to plan one without pain or evil. It might prove to be "weary, stale, flat, and unprofitable." It all seems very different from our modern energetic, dynamic, and biological point of view. We are not so sure whether it would be well for us to be eternally happy. We assign higher value now to growth through conflict. If there were no evil and no temptation, there would be no victory over evil and no *character*. We place more emphasis now upon character than upon happiness. A race of sinless beings would not be perfect beings — they would be a race of innocents; and while we prize innocence in children, we prize force of character in men — the ability to stand firmly against temptation, to overcome and conquer evil. With the passing of the hedonistic ethics, which emphasized pleasure or happiness as the end of life, the problem of evil has changed. What the man of to-day wants is to achieve rather than to enjoy. He likes something of adventure and of risk, and perhaps even of pain, if great things may perchance be won. Even death may be looked upon in this way. It is reported of Charles Frohman, the theatrical manager, who went down with the Lusitania, that he said, as the ship was struck by the torpedo,

"Why should we fear death? It is the most beautiful adventure in life"; a sentiment anticipated by Browning:

> And I shall thereupon
> Take rest, ere I be gone
> Once more on my adventure brave and new.

Lucretius, at the opening of the second book of the *De Rerum Natura*, says:

> It is sweet, when on the great sea the winds trouble its waters, to behold from land another's deep distress; not that it is a pleasure and delight that any should be afflicted, but because it is sweet to see from what evils you are yourself exempt. It is sweet also to look upon the mighty struggles of war arrayed along the plains without sharing yourself in the danger.[1]

This "safety first" motto might do for an Epicurean poet or serve as a prudent caution at a busy metropolitan street crossing, but as a rule of life it does not appeal to us. We sympathize more with the mood of James, at the close of his lecture entitled *Is Life Worth Living?*

> But the faithful fighters of this hour, or the beings that then and there will represent them, may then turn to the faint-hearted, who here declined to go on, with words like those with which Henry IV greeted the tardy Crillon after a great victory had been gained: "Hang yourself, brave Crillon! We fought at Arques, and you were not there."

Man is a striving animal. Happiness is not found in rest or in freedom from pain, but in the activity of his powers, especially in the creative activity of his highest powers, of reason, thought, invention, artistic creation, and humanitarian effort. We are not impressed by the attitude of the man in the story who had partially recovered from a stroke of some kind and said to his physician: "I sleep better than ever before, I have a better appetite than ever before, and in general am happier than ever before. To be sure, I have lost my mind, but I don't miss it." The retired farmer is seldom as happy as he thought he was going to be in his new house in town with its bathroom and library and modern conveniences. That long-dreamed-of *leisure* is not so desirable as it had seemed in prospect. The old days on the farm,

[1] Munro's translation.

with their problems to be solved and their recurrent joys of fields ploughed and harvests gathered, have no compensations in the life of rest. There is a good homely philosophy in the saying that if you get done all that you set out to do, you didn't set out to do enough.

So, finally, although we can formulate the phrase "a world without evil," the words can have no distinct meaning. In that perfect and happy world in which there is no evil, pain, or sorrow, I think there are some things we should miss. We should miss our Browning with his "jagged phraseology of struggle and strife"; our Dante with his Hell and Purgatory and redeeming love; our Goethe with his gospel of salvation through rich human experience; our Lincoln with his knit brow and sad sympathetic face; our Raphael with his Sistine Madonna; our Shakespeare with his stories of Macbeth and Lear; our Æschylus with his dramas of tempestuous fate, and our Jesus with his gospel of redemption.

Physical pain and natural evil

Much of the sorrow and suffering of the world are due to ignorance or to willful violation of the laws of nature, or of society. Physical pain is Nature's beneficent warning of approaching disease or abnormal function. A toothache bids us hasten to our dentist to minister to a decaying tooth. Disease follows upon the slackening of that eternal vigilance which keeps us strong and well and alert to danger. If people *will* live in unsanitary ways, neglect out-of-door exercise, eat unwholesome foods or eat too much or at the wrong time, drink stimulants or narcotics, use drugs to cover up their troubles, wear insufficient or too much clothing, seal themselves in overheated houses, indulge in too much or too feverish social life, violate the laws of social purity which society has found necessary for its welfare, substitute an indoor night life for the outdoor day life natural to mankind, why, of course, something unpleasant is bound to happen. If moral laws or the laws of nature are violated, we can perhaps escape punishment, but we cannot escape consequences; and the reason is very simple, since our moral laws are for the most part

the product of the experience of the race as to the conditions of social survival. Unspeakable calamities in many families could be traced back to some form of vice either in the sufferer or his parents or grandparents. If the evils do not always fall upon the head of the offender, this is due to the law of social solidarity, from which we gain more than we lose.

Pessimists sometimes make much of natural evils, such as the internecine warfare among animals, human warfare, death, storm, flood, drought, and earthquake. We hear of Nature's cruelty and of her wastefulness. Some of these evils present little difficulty; others, more. As man develops in culture and refinement, he becomes exquisitely sensitive to pain and evil, and he reads down his own feelings and sensitiveness into the lower orders of animal life and into other times and conditions. The will-to-live makes death seem terrible to many people, particularly to the young. But life and death are correlative terms and we could not have one without the other. You and I would not be here unless past generations had died to make room for us. In William Watson's poem, *The Dream of Man*, man, overcoming all obstacles, finally overcame death, but he bitterly repented this till a sympathetic God restored it.

The indictment of Nature as prodigally wasteful comes from a childish misunderstanding. A single elm tree showers down ten thousand seeds, each one a miracle of potencies. Of these perhaps one — more likely none — falls into a favoring soil and grows into a tree. When we call this "wasteful," we are evidently judging it from a certain human economic standpoint where waste and improvidence lead to future want. Call it "liberality," "generosity," "lavishness," and the difficulty disappears. Each seed is a potential tree, to be sure; but the "tragedy" of it, "the blighted hopes," are imaginary evils reflected back from our human standpoint.

One writer says: "There are tens of thousands of horrible failures to one real advance in evolution. It has been by destroying the results of its mistakes that the process has moved toward higher forms. Millions of years of struggle, involving the destruction of countless organisms, have brought the world to the

present." Here the expression "horrible failures" involves a fallacy. From the point of view of the individual in these passing species, life might appear quite normal and happy. You and I may be very happy, and yet ages hence the race to which we belong might be supplanted by a better one. It seems to us awful that one species should prey upon another, yet any individual, in the species preyed upon, lives his normal life and suffers death in the manner peculiar to the species. The fact that the species continues indicates an adjustment to its environment, and such adjustment represents the external conditions of welfare in that species and presumably happiness.

Such natural calamities as storms and earthquakes have sometimes seemed incompatible with divine benevolence. One recalls Voltaire's famous poem on the earthquake at Lisbon when the walls of the churches tumbled down upon the worshipers, refuting the smiling optimism of Pope. But the Earth's surface is gradually getting more and more stable. Earthquakes are rare and their area very limited. Experience has shown that a knowledge of earthquake areas does not deter men from going there to live. They are willing to take the risk involved for the advantages to be gained. Suppose that Nature had some way of labeling her earthquake areas, saying to man, "Enter here at your own risk." If these offered fair fields for cultivation, rich deposits of coal, mineral, or oil, maritime advantages, or pleasure resorts, no one can doubt that they would soon be thickly populated. If we go back in geological history, we should doubtless find that earthquakes, storms, and cataclysms were more and more frequent, but wherever the conditions are such that life becomes possible, some species fitted to the environment appears speedily taking possession. It is the insurgency of life.

So with respect to storm and flood. If with the crashing of the thunder and the fury of the cyclone, Nature seems to be malevolent, it is because her *benevolence*, seen in the fertility of the soil, the unfailing recurrence of the seasons, the almost miraculous regularity of the rains, alternating with the life-bringing sunshine, are forgotten because of their constant presence.

As regards the cruelty of Nature, the notion that man has been

evolved at the expense of lower forms of life, who have sacrificed their lives for him, belongs to the literature of rhetorical pessimism. Even James thoughtlessly falls into this error.

> When you and I, for instance, realize how many innocent beasts have had to suffer in cattle-cars and slaughter-pens and lay down their lives that we might grow up, all fattened and clad, to sit together here in comfort and carry on this discourse, it does, indeed, put our relation to the universe in a more solemn light. "Does not," as a young Amherst philosopher (Xenos Clark, now dead) once wrote, "the acceptance of a happy life upon such terms involve a point of honor?" Are we not bound to take some suffering upon ourselves, to do some self-denying service with our lives, in return for all those lives upon which ours are built? To hear this question is to answer it in but one possible way, if one have a normally constituted heart.

Something similar to this is often heard from the vegetarian who will eat no meat because it involves the death of innocent animals. He forgets that, if all the American people should refrain from eating meat, the millions of fat cattle, sheep, and hogs on our farms and ranches would not be bred at all. As it is, their lives, from the animal point of view, are the happiest possible. They are sheltered from all the dangers that constantly threaten wild animals. Regular and unlimited food is provided without their effort. They are free from pain and disease. They have no fear of death, and while death indeed comes, it comes to all animals, and to the wild animals in a much more painful form, perhaps after desperate battle or flight, perhaps after weeks of starvation. The vegetarian may possibly urge hygienic but not humanitarian motives.

Pessimism

Pessimism in philosophy is the doctrine that life is essentially evil, that there is more pain in the world than pleasure, more evil than good. It is not difficult to make many of us believe this, because pain and evil, being the exception rather than the rule, attract our attention. Pain indicates *abnormal* function, and is therefore exceptional in normal life. Moral evil indicates a departure from those rules of conduct which experience has shown to be necessary for social welfare. Since social groups

usually survive and prosper, moral evil must be the exception rather than the rule.

Arthur Schopenhauer, a talented German philosopher of the nineteenth century, has been called the prince of pessimists. He attempted a logical proof that this is the worst possible world. The Will is the fundamental reality. The "will-to-live" is forever urging us on, blindly seeking satisfaction which is never attained, or, if attained, is succeeded by new desire. Life is eternal striving, a desire for the unrealized. Hence life is full of unsatisfied longing, full of misery and suffering. This is the worst possible world, for if the evil forces which prey upon us were any worse than they are, we could not survive.[1]

The fallacies in Schopenhauer's reasoning are not difficult to detect. He says that all life is suffering, because it is all striving, and striving is suffering. Life is by no means *all* striving, though striving accompanies it. But that striving is suffering is not true; it may be and usually is quite the opposite. Successful striving may be counted as life's greatest joy; striving that is not successful is still a pleasure. Great is the joy of the vision of a coveted goal; greater still the joy of trying to attain it; and great is the satisfaction of having attained it. Even if we fail, there is joy in trying, and what right have we to assume that failure is normal? More often we succeed than fail. We expect to succeed, and so are more impressed by the failures. This whole matter of the pessimistic or optimistic attitude depends much upon the emotional reaction of the individual, and it is easy to confirm either the philosophy of despair or the philosophy of joy by seizing upon, emphasizing, and exaggerating either the sorrows or the joys of life. Schopenhauer himself was a genius, and genius is often associated with psychopathic traits. Such traits, indeed, abounded in his family history, sometimes in extreme forms.

Schopenhauer's other argument — designed to prove that this is the worst possible world from the fact that, if the evils in it were

[1] Arthur Schopenhauer was born in 1788 and died in 1860. His principal work is called *The World as Will and Idea.* It is a work of high literary and philosophical merit, and has become a classic in philosophy. For Schopenhauer's pessimism, the student should read vol. III, chap. XLVI, "On the Vanity and Suffering of Life."

any worse than they are, we could not survive — is also misleading. Theoretically it is true that if the environment in which any animal species lives were different from what it is, that species would be different. Each species is adjusted to its environment. Hence in a way it is true that if the world were either worse or better than it is, we should not survive; we should be modified to meet the new conditions. Practically, of course, our human environment might be much worse or better than it is without leading to our destruction.

The causes of pessimism

Pessimism may be considered as a disease, its causes diagnosed and its cure prescribed. It was formerly said to be due to a defective liver, but is now attributed to a failure of the endocrine glands to function. It becomes chronic and the cure is difficult. Perhaps something of this kind ailed Carlyle. It is related that he was once walking with Leigh Hunt, who called his attention to the beauty of the stars and the grandeur of the heavens, but Carlyle said, "Eh, it's a sad sight!"

Melancholia represents an extreme form of the complaint, when, owing to pathological nervous conditions, *everything*, even the singing of the birds in the spring, is tinged with an unspeakable sadness. Often it takes lesser forms, and is then sometimes due to a lack of proper balance between the sensory and motor functions of the nervous system. Man is naturally and physiologically an *actor*, a *doer*. Stimulus is followed normally by response; and if for any reason no adequate motor outlet is possible, a pathological condition follows, leading perhaps to some degree of melancholy.

College and university students sometimes pass through such a period of forced inaction, spending four years in *taking in* and assimilating material, but being forced to bide their time for action and achievement. Athletics and extra-curricular activities of all kinds then act as a kind of *catharsis*, purifying the mind from these disorders, but sometimes at too great a cost, since valuable opportunities for study may be lost, or health impaired. Students who *must* have a lot of extra-curricular activities in order to

keep from getting pessimistic no doubt suffer a certain handicap in future life. Those who *can* keep the cobwebs out of their brains while they lay in a stock of useful knowledge and disciplinary thinking will perhaps be the ones who forge ahead in the end, provided only physical health is not sacrificed.

There are other causes why young people are often pessimistic. The vast enthusiasms and idealisms of adolescent years are often quenched and dimmed when the first real contact comes with life. Disillusionment and disappointment follow, sometimes with thoughts of suicide.

David Starr Jordan puts it in this way:

> The joys of life have been a thousand times felt before they come to us. We are but following part of a cut-and-dried program, "performing actions and reciting speeches made up for us centuries before we were born." The new power of manhood and womanhood which seemed so wonderful find their close limitations. As our own part in the Universe seems to shrink as we take our place in it, so does the Universe itself seem to grow small, hard and unsympathetic. Very few young men or young women of strength and feeling fail to pass through a period of pessimism. With some it is merely an affectation caught from the cheap literature of decadence. It then may find expression in imitation, as a few years ago the sad-hearted youth turned down his collar in sympathy with the "conspicuous loneliness" that took the starch out of the collar of Byron. "The youth," says Zangwill, "says bitter things about life which Life would have winced to hear had it been alive." With others Pessimism has deeper roots and finds its expression in the poetry or philosophy of real despair! [1]

With the time for action all this pessimism may disappear.

Another cause for pessimism is found in the attempt to fill our lives with *unearned joys*. These abound in a civilization like ours when a highly organized and wealthy society showers upon us comforts and conveniences which we have not earned. Wealth which is inherited, not earned, sometimes has a similar effect upon individuals. Work cures pessimism of this kind, especially creative and constructive work.

> The latest gospel in this world is, Know thy work and do it. "Know thyself:" long enough has that poor "self" of thine tormented thee;

[1] David Starr Jordan, *The Philosophy of Despair*, pp. 13, 14.

thou wilt never get to "know" it, I believe! Think it not thy business, this of knowing thyself; thou art an unknowable individual: Know what thou canst work at; and work at it, like a Hercules! That will be thy better plan.

It has been written, "an endless significance lies in work;" a man perfects himself by working. Foul jungles are cleared away, fair seed-fields rise instead, and stately cities; and withal the man himself first ceases to be jungle and foul unwholesome desert thereby. Consider how, even in the meanest sorts of Labour, the whole soul of a man is composed into a kind of real harmony, the instant he sets himself to work! Doubt, Desire, Sorrow, Remorse, Indignation, Despair itself, all these like hell-dogs lie beleaguering the soul of the poor day-worker, as of every man: but he bends himself with free valour against his task, and all these are stilled, all these shrink murmuring far off into their caves. The man is now a man. The blessed glow of Labour in him, is it not as purifying fire, wherein all poison is burnt up, and of sour smoke itself there is made bright blessed flame![1]

Yes, no doubt this is true of creative and constructive work. You and I, if we have found *our* work, are happy. But what about the drudgery of the industrial laborer, or the uninteresting housework dragging out through the long hours, or the perpetual thumping of a typewriter? I suppose that the most confirmed optimist would not undertake to show that in the half million years of human history which have elapsed thus far there might not be periods when the human species has gone astray in its manner of living. When a *great many people* want a *great many things* to satisfy their ever increasing demands, somebody will have to work hard to provide these things. Whether we *have* gone astray in our manner of living since the discovery of coal, iron, and oil has revolutionized society, whether our present industrial system is a boon or a curse, whether this system might be modified so that creative labor could be substituted for drudgery, or whether the hours of labor might be so reduced that all men could find a real joy of life in the eight or ten hours of leisure which might then be provided, are questions not belonging here.

But I would suggest that even this problem might be solved if only a part of that amazing inventive power of thought which has produced the airplane and the wireless telephone should be

[1] Thomas Carlyle, *Past and Present* (Harper and Brothers), p. 197.

turned in the direction of social and industrial betterment. Indeed, an age that has projected and put into successful operation the League of Nations need not despair of solving some of our industrial problems. We are living in a transitional time when serious readjustments are necessary. It is worth much to be a citizen of the world now in this day of testing and perhaps to participate in creating this new world order. If love can conquer hate, and coöperation take the place of rivalry and distrust, a great future lies before us, in the making of which we may be proud to have a part.

Optimism

Almost as bad as pessimism is a superficial and careless optimism. Browning's optimism has been criticized on this ground. His Pippa goes singing through her brief holiday, saying, "God's in his heaven — all's right with the world." But all's not right with the world, as every one knows. Browning's optimism, however, should not be judged by this one line. On the whole it is wholesome and sound, based on his belief in God and Truth and Love, and on his philosophy of endeavor and progress. Another famous optimist was Leibniz, who in his *Theodicy* proved by rational arguments that this is the best possible world. Sir John Lubbock in his book, *The Pleasures of Life*, proceeds by the opposite inductive method to an optimistic view of life.

Our idealism

But, after all, there is little meaning in either optimism or pessimism. These superlatives are misleading. Looking forward and measuring the world by our ideals, we find it bad; looking backward and measuring the present by the past, we find it good. So, then, the really significant thing is not the goodness or the badness of the world, but the progress of it; and still more significant than this is the idealism in the human mind which makes every present good seem imperfect in the light of the higher good that we conceive. In the philosophy of the present neither optimism nor pessimism is in good standing. Meliorism has taken its place, and it teaches that the world is neither the worst possible

nor the best possible, but that it is getting better, and that the task before each one of us is to lend a hand in making it better.

"'Evil, O Glaucon,' says Socrates in Plato's *Dialogue*, 'will not vanish from the earth.' How should it, if it is the name of the imperfection through whose defeat the perfect types acquire their value?" [1]

The lure of pessimism

The curious appeal which the literature of pessimism always makes is a "problem" in itself, a psychological one. People seem to love to write and love to read about the woes of life. If the latter is partly explained by the superior literary character of the pessimistic writings, this superiority itself presents a problem. The beautiful but somber utterances of the Book of Ecclesiastes seem to be in little harmony with the other literature of the Hebrew Bible, yet fascinated readers for more than twenty centuries have sympathized with the author's gloomy sentiments.

Vanity of vanities, vanity of vanities, all is vanity. What profit hath man of all his labour wherein he laboureth under the sun?

All things are full of weariness, man cannot utter it, the eye is not satisfied with seeing nor the ear filled with hearing.

Buddhism offers a particularly pessimistic faith, yet uncounted millions have been its devotees. Edwin Arnold thus renders some lines from the Devas's song:

> We are the voices of the wandering wind,
> Which moan for rest, and rest can never find,
> Lo, as the wind is, so is mortal life —
> A moan, a sigh, a sob, a storm, a strife.

As translated by Fitzgerald, Omar Khayyám's *Rubáiyat* is a perennial best-seller. How much of the powerful appeal of these quatrains is due to the somber philosophy and how much to the exquisite rendering of the translator?

> Myself when young did eagerly frequent
> Doctor and Saint, and heard great argument
> About it and about: but evermore
> Came out by the same door where in I went.

[1] S. Alexander, *Space, Time, and Deity*, vol. II, p. 420.

With them the seed of wisdom did I sow,
And with my own hand wrought to make it grow;
And this was all the harvest that I reaped —
"I came like water and like wind I go."

Or Byron:

Count o'er the joys thine hours have seen,
Count o'er thy days from anguish free,
And know, whatever thou hast been,
'Tis something better not to be.

Or James Thomson in *The City of Dreadful Night:*

Speak not of comfort where no comfort is,
Speak not at all: can words make foul things fair?
Our life's a cheat, our death, a black abyss.
Hush and be mute envisaging despair.

Or Matthew Arnold:

Wandering between two worlds, one dead.
The other powerless to be born,
With nowhere yet to rest my head,
Like these on earth I wait forlorn.

I do not know why we like to read these disconsolate things, but they seem to strike a responsive chord. Perhaps it is because there are woes enough in the world to make the subject interesting and not enough to make it flat. Every life has its dark shadows, and usually we have to keep silent about them. When we find some poet, philosopher, or writer of fiction who speaks out about them, we feel as if we had found a sympathetic friend. For the most part we have to keep smiling, whether we feel like smiling or not. So occasionally we slip away to dear old sympathetic Thomas Hardy, who does not even pretend that the world is all good and honest and right, and just let ourselves go. It is a kind of relaxation and purification. I wonder, by the way, whether the realism in fiction of the present day is truly realism, or whether it simply means that the evils of life, formerly not much mentioned, are now truthfully and vividly described, while the good things, being too common to be interesting, are omitted.

But perhaps there is some deeper reason for the appeal which

the poetry of despair makes to so many of us. It is easy to point out, as I am doing in this chapter, the grounds for a hopeful philosophy of life. But I have little doubt that many readers will say, "Your arguments perhaps are unanswerable but the facts are against you. The things that stand out most clearly in our lives are disillusionment, defeat, thwarted ambitions, disappointed hopes. Life's promises have not been fulfilled, justice has not been gained, the glaring inequalities of fortune cannot be pardoned in this facile fashion. It is easy for the well-fed theorist, sitting in his study, to show that the world is good and getting better — but life's grim realities lend little support to this philosophy of hope. One who writes in this way has not looked into the homes of the workers in our great industrial centers nor into the hearts of those who have grieved for friends torn from their sides. Joy and gladness are theories — evil is a fact."

As I said earlier in this chapter, this conviction which many feel of the essential evil of the world is one of the facts which any philosophy of life must take account of. Professor James believes that it is due not to actual evils but to the very opposite. Man is by nature a fighter and a conqueror, and is at his best when rowing against the stream. "It is, indeed, a remarkable fact," he says, "that sufferings and hardships do not, as a rule, abate the love of life; they seem, on the contrary, usually to give it a keener zest. The sovereign source of melancholy is repletion. Need and struggle are what excite and inspire us; our hour of triumph is what brings the void. Not the Jews of the captivity, but those of the days of Solomon's glory are those from whom the pessimistic utterances in our Bible come."

No doubt a part of the pessimism of our day can be explained in this way — but I think not all of it. Some is due to our excessive demands upon life, and some must be traced to temporary industrial and political conditions. Certainly one factor here is the consciousness of a kind of injustice arising from inequalities in wealth, in social position, in political power. Lives otherwise not embittered may become so by the knowledge of supposed joys possessed by others but denied to us.

Is the world as bad as it seems?

In times of health, physical and mental joys vastly preponderate over pains and sorrows. In times of social prosperity, moral good greatly exceeds moral evil. But the interesting question arises whether there may not be periods of social decadence in which evil preponderates over good; and then comes the still more arresting question whether the present is such a time. Civilizations rise and fall, each new one attaining higher standards than the old. Whether, during periods of decline, the sum of pain in a given community or the sum of evil might exceed the sum of joy and good, would be a question difficult to answer and one perhaps having little meaning.

In Europe stricken by the war, sorrows multiply; in America in a time of prosperity, unnumbered joys abound. A crisis seems to have been reached in social evolution, when the art of war will have to be unlearned if civilization is to be saved. The people of the Earth have now to learn a new lesson, the lesson of coöperation and peace. We do not know yet whether they can learn this lesson in time to save our present civilization; but sooner or later it will be learned, and then we hope for a new civilization finer and better than any we have known. It is possible, though I do not think probable, that an interval of social chaos may separate our time from that. The vision of the better way is clearly seen in so many minds that we cannot doubt the coming of a new social order, in which coöperation shall take the place of rivalry and distrust.

Perhaps, though, the present crisis has its roots deeper than the alternatives of peace and war. When God creates a masterpiece like man with freedom to go his own way, there is always danger that he will go wrong—for a while. There are some indications that he is going wrong now. There are those who think that human progress has reached a peak, and that we are riding for a fall. We are alarmed now by many signs of danger — the declining birth-rate; the increased use of narcotics; a selfish and ruthless nationalism; a thirst for alcohol so great as to weaken our respect for law; the dangerous urbanization of our social groups; the disastrous increase of wealth, leading to idleness,

luxury, and vice; the increase of certain forms of organic and mental diseases; and the moral dissolution in European society following the Great War.[1]

Just as the violation of the laws of health in the case of the individual may lead to disease and sorrow and pain, so the violation by a social group of the laws of social welfare may lead to decadence. Though it is very doubtful whether our present society is decadent or even approaching a period of decadence, there is immediate and imperative need that certain evils be summarily ended. Organized intelligence can end them.

In a catalogue of evils such as I have mentioned, as well as in the pictures of misery in our crowded cities and industrial centers, it is difficult to get a correct perspective. As regards the amount of evil in the world, there is certainly enough of it; but we are often misled by the fact that as our ethical ideals advance we are more impressed by the evil that we see. Railroad and automobile travel have become so safe that accidents are paraded in headlines. So great advance has been made in morals and manners that wrongdoing has become "news," and furnishes rich material for the first page of our daily papers. Crime makes a "sensation," and our sensational journals exploit it for that reason. Diogenes is said to have gone through the world with a lantern looking for a man. Our news-gatherers of to-day go through the world with a hundred-candle-power electric torch looking for crime, disaster, accident, or suicide, and keep the wires centering in our great cities hot with their stories. As I am writing these words a daily paper lies at my side. The first page contains two single and three double columns, all of them with violent headlines heralding crime or disaster. We lay down such a paper with a sigh, saying, "The world is full of crime and misery." But really the whole world, telegraphically in touch with our daily paper, is combed for news with a fine-tooth comb, and things are not so bad as they seem. To emphasize this, it is only necessary to turn from that sensational first page and think of our neighbors and friends. They are for the most part honest and decent folk, whom you could trust with your gun or your

[1] As pictured, for instance, in Sir Philip Gibbs's story, *The Middle of the Road.*

daughter, and they have probably just returned from an automobile ride without an accident.

Some years ago Sinclair Lewis wrote a "best-seller" called *Main Street*, in which he painted in vivid colors the drab and sordid life of a typical Mid-Western town. Gopher Prairie was perhaps no worse nor better than other towns, but in the story it was seen in the shadow of a hopeless mediocrity and vulgarity. The picture was more or less a true one; but the evils, while real, were evils only in contrast with the author's and the reader's high idealism. Another and very different picture, also true, could be drawn of the same community.

Compare, for instance, the lot of those Western people of today with those of people of the past. It was not many centuries ago when English peasants lived in hovels with dirt floors, slept on a pile of straw, and were afflicted with vermin; and we do not have to go back further than the age of Themistocles to the time when wars were constant and defeat in war meant the razing to the ground of the whole town, the violent death of every man, and the carrying away of all the women and children to slavery. And we do not have to go back further than the best days of Rome to the time when, even in days of peace, neither one's life nor property was safe, when one's most trusted neighbor might be a spy, and when freedom of speech was unknown.

In Sinclair Lewis's typical Western town the people are practically all well-fed, enjoying three good meals a day, and perhaps wasting considerable quantities of food. They are nearly all comfortably housed, protected from rain and storm and winter's cold. They are for the most part comfortably and tastefully clothed. There are free schools for *all* the children, and colleges, universities, training and technical schools are available for those who seek them. In the houses there are usually bathrooms, and for the most part the people are clean and neat. There is relatively little grinding poverty in the social group, work is usually obtainable, and there are honest and safe banks for the accumulation of one's earnings. In case of sickness there are skillful doctors and surgeons, and pain is eased by anæsthetics. Dentists fill or remove painful teeth, providing new ones when necessary.

Hospitals are found in almost every town, and the State provides institutions for the insane, feeble-minded, deaf, and blind, and for the cure or care of those afflicted with tubercular and other diseases. A stable government makes life and property comparatively safe. Comforts and luxuries abound.[1] There is perhaps a motor car for every five or ten people, and these are largely used for pleasure and outings. Newspapers, magazines, and books are found in nearly all the homes; moving pictures for a small price bring the busy world and the wonders of nature to the screen. Nearly every person can read, and probably a free public library offers him the best things from the past in history, drama, poetry, science, and philosophy, while books of fiction without number provide entertainment and instruction. Even in the homes, tables are covered with interesting papers, magazines, and books. The city is provided with a sanitary and invisible disposal of waste and sewage. Pure running water is brought to a large percentage of the houses — perhaps also gas and electricity. In most homes telephones are found, permitting of instant communication with friends, even in distant cities. A great postal system, prompt and reliable, permits of communication at a trifling cost with every part of the world.

All these sources of comfort, peace, and happiness have become so much a matter of course that we forget them and take too seriously a dark picture such as that drawn by Mr. Lewis.

Possibly there is a real place for an optimist league, such as I saw mentioned in a paper some years ago:

> The movement to establish The Optimist League of America may not succeed and, if it should succeed, may not accomplish its end; but the circular of information which it sends out contains some facts which

[1] In America, it appears that we spend about twenty-three thousand million dollars a year for luxuries of all kinds; some of the items are as follows:

2,000 million for tobacco.
1,000 million for moving pictures.
2,000 million for candy.
3,000 million for joy rides, races, and pleasure resorts.
2,000 million for cosmetics, perfumes, etc.
500 million for jewelry.
350 million for furs.
300 million for soft drinks.
50 million for chewing gum.

ought to be kept in plain view — facts which are constantly obscured by isolated tales of scandal and crime in which the newspapers abound. The Optimist League calls attention to the fact that ten thousand bank cashiers have done their work faithfully for periods ranging from ten to twenty-five years; that twenty million married people in this country were not divorced last year; that eighty million citizens have not committed suicide; and that every week ten million people make railway trips in safety.

When all is said, there has been for some centuries a rather steady growth in the things which we have come to prize — freedom, opportunity, security, physical comforts, medical, surgical, and dental service, control of contagious diseases, household conveniences, conveniences of travel and communication, a world-wide news service, the passing of fear and superstition, educational facilities for our children, constantly increasing rights and privileges of women, and so on through the long list. We should not care again to face hunger and cold and constant fear, nor should we be willing to sacrifice the security which law and order during the longer and longer intervals of peace have gained for our women and children and for our lives and property. When radical social reformers clamor for the overthrow of our present social system and arraign it as a system of slavery and poverty and cruel injustice, it is evident that they use these terms relatively, having in mind some ideal social order in which all our present freedom and security and our comforts and conveniences are to be retained and the glaring imperfections removed! [1]

We hear complaints everywhere about the inefficiency of our political machinery, our corrupt politicians, our privilege-controlled legislative bodies, our do-nothing congresses, and the failure of justice in our courts; but how much of this censure is due again to our idealism in comparing our institutions with what they ought to be — not with what they have been. Those who feel pessimistically inclined with regard to our political institutions should read Edward A. Ross's little book entitled *What is America?* and Chapter XIV of Walter E. Weyl's book, *The New Democracy,* if they would appreciate somewhat the good government that we have.

A matter of emphasis

But not all communities are as happy as those I have described.

[1] From the author's book, *The Psychology of Social Reconstruction.*

It seemed to me worth while to show how emphasis may be laid upon the good as well as the bad. In general, we must lay emphasis upon the bad, because only so can the world be made better. Complacency will not do. We must see the evil, and see that it is evil — and then destroy it and move on to the better. A certain newspaper announced in conspicuous headlines that a sanitary survey of a certain large city in the South revealed the fact that thirty per cent of the houses were without bathrooms. The reader is supposed to receive the news with a kind of shock, the implication being that a larger percentage would be expected to have them. This is right, and the motive and method were correct; but if the motive were not ethical and constructive, but merely historical, the headlines might have startled us with the announcement that a survey actually showed that seventy per cent of the houses in that city were provided with bathrooms. Whether we are optimists or pessimists appears to be a matter of emphasis.

Mr. H. G. Wells, in his *New Worlds for Old*, paints in strong colors the sins and evils of the day; yet in the same book he does not hesitate to say:

> In spite of all the confusions and thwartings of life, the halts and resiliencies and the counter-strokes of fate, it is manifest that in the long run, human life becomes broader than it was, gentler than it was, finer and deeper. On the whole — and nowadays almost steadily — things *get better*. There is a secular amelioration of life, and it is brought about by Good Will working through the efforts of men. . . .
>
> The world is now a better place for a common man than ever it was before, the spectacle wider and richer and deeper and more charged with hope and promise. Think of the universal things it is so easy to ignore; of the great and growing multitude, for example, of those who may travel freely about the world, who may read freely, think freely, speak freely! Think of the quite unprecedented numbers of well-ordered homes and cared-for, wholesome, questioning children! And it is not simply that we have this increasing sea of mediocre well-being in which the realities of the future are engendering, but in the matter of sheer achievement I believe in my own time. It has been the cry of the irresponsive man since criticism began, that his own generation produced nothing; it's a cry that I hate and deny. When the dross has been cleared away and comparison becomes possible, I am convinced it will be admitted that in the aggregate, in philosophy, and significant liter-

ature, in architecture, painting and scientific research, in engineering and industrial invention, in state-craft, humanity and valiant deeds, the last thirty years of man's endeavors will bear comparison with any other period of thirty years whatever in history.

And this is the result of effort; things get better because men mean them to get better and try to bring betterment about; this progress goes on because man, in spite of evil temper, blundering and vanity, in spite of indolence and base desire, does also respond to Good Will and display Good Will. You may declare that all the good things in life are the result of causes over which man has no control, that in pursuit of an "enlightened self-interest" he makes things better inadvertently. But think of any good thing you know! Was it thus it came? [1]

Now this "improvement" which Mr. Wells speaks of has been going on — have you ever thought of it? — for five hundred thousand years. When the first man stood upright, sharpened a flint, pointed a stick for a spear, invented the bow and arrow, or discovered the use of fire, he *improved* his condition. There were better implements, new power, happier conditions of living, as well as creative work and the joy of discovery. Carry this on down through the ages to our last labor-saving devices, the latest discoveries in the hygiene of food, dress, or house construction, or the latest perfected implements of agriculture or means of transportation. There has been constant *improvement.* Now, we cannot suppose that the first man was *unhappy.* His condition was certainly "better" than that of the apes which preceded him, and we cannot consider them as unhappy, nor any of the animals still lower down in the scale; they are all eager to live, and no

[1] H. G. Wells, *New Worlds for Old* (copyrighted by The Macmillan Company. Reprinted by permission), pp. 5, 10, 11. This was written before the Great War. For an equally striking account of social progress *since* the War, see Robert Briffault's *The Making of Humanity.*

The fallacy of the good old times deceives few of us now. In the Museum at Constantinople the writer was shown an ancient tablet dating from 3800 B.C. Translated, it read —"We have fallen upon evil times and the world has waxed very old and wicked. Politics are very corrupt. Children are no longer respectful to their parents." In an article entitled "An Answer to Pessimists" by David F. Houston in Harper's Magazine for June, 1924, one finds a severe arraignment of Congress, where the business of the Nation is left undone or is badly done, and of the demagogues in public office whose principles hang laxly upon them. After the reader has duly read and approved of this, the author quietly informs him that it was written by Mr. Justice Story of Massachusetts in the year 1818.

doubt happy in living. Looking at the matter in this way, there does not seem to be much ground for a philosophy of pessimism.

But we dare not let this evident meliorism blind us to the dangers which lie immediately before us. Hope as we may, we cannot hide from ourselves the fact that the menace of a coming barbarism hangs over Europe to-day — yes, and over America too — due to novel conditions arising in part from the Great War, in part from circumstances incidental to a transition period in moral and religious beliefs and in industrial relations. There is, however, nothing in the situation which the people of Europe and America have not the power to remedy, *if they will.* If they fail, the new social order of which so many have the vision and in which peace, good-will, and coöperation shall prevail, will be delayed — but it will come.

In connection with this chapter read:

Josiah Royce, *The Spirit of Modern Philosophy* (Houghton Mifflin Company), lecture XIII.

Arthur Schopenhauer, "The Assertion and Denial of the Will," selection from *The World as Will and Idea* in *Rand's Modern Philosophers* (Houghton Mifflin Company), pp. 658–71.

William James, "Is Life Worth Living?" in *The Will to Believe* (Longmans, Green and Company).

Further references:

John Stuart Mill, *Three Essays on Religion* (Henry Holt and Company), "Nature," pp. 3–69.

James Ward, *The Realm of Ends* (G. P. Putnam's Sons), lectures XV, XVI, XVII.

R. M. Wenley, *Aspects of Pessimism.* (William Blackwood and Sons.)

Josiah Royce, *Fugitive Essays* (Harvard University Press), "The Practical Significance of Pessimism," p. 133; "Pessimism and Modern Thought," p. 155.

Friedrich Paulsen, *A System of Ethics.* Translated by Frank Thilly (Charles Scribner's Sons), book II, chaps. III, IV.

J. Arthur Thomson, *The System of Animate Nature* (Henry Holt and Company), vol. II, lecture XVIII, "Disharmonies and Other Shadows."

James Sully, *Pessimism, a History and a Criticism.* (D. Appleton and Company.)

Arthur Schopenhauer, *The World as Will and Idea* (Ticknor and Company), vol. III, chap. XLVI, "On the Vanity and Suffering of Life."

CHAPTER XII

THEORIES OF REALITY

Dualism

The "stuff" of the world

From the earliest times philosophers have been interested, not merely in the *course of events*, in the study of growth and evolution and in the origin and destiny of the world, but also in the *stuff* out of which the world is made. This problem we must now study. We have been pondering on the questions, What is the world *made for?* and, *By whom* was it made? Now we must ask, What is it *made of?* Theories of Reality, therefore, now confront us; *ontological* theories, as we call them.

It was this problem of reality, as we have seen, that engaged the attention of the earliest Greek philosophers. Thales of Miletus who lived in the sixth century before Christ and who is called the father of philosophy, said that all things came from *water;* but his successors in the Ionian school thought that they came from air or fire. Rapidly the early Greeks advanced beyond these crude conceptions and soon arrived at the theory that the world is made of atoms, or little material particles.

The three theories

It is obvious that if we are to speak of ultimate forms of reality at all, and if we are to believe that the world may be reduced to certain elementary substances or elementary forms of being, either there must be one such elementary substance, or two, or more than two. So we have the three philosophical theories of reality — *Monism*, *Dualism*, and *Pluralism*. The tendency to seek for unity in plurality, to find the One in the Many, as Plato said, is persistent in the human mind, so that there has always been a strong hope among philosophers of finding some one elementary form of being — or, at any rate, two — the various manifestations of which shall make up our world of experience.

Consequently, monistic and dualistic systems of philosophy have been very popular. Just at present there seems to be less interest in trying to find out what the world is made of and more interest in discovering its meaning and value. Problems of life, problems of evolution, problems of experience, problems of value, have now somewhat eclipsed the older problem of "ontology."

But still these problems of reality are of perennial interest, and before we go on to the larger questions we must consider these. We must mention the different forms of Monism, and understand clearly what Dualism means, and examine the newer pluralistic views.

Dualism

Of these three theories of reality, perhaps the easiest one to understand is Dualism. Let us therefore begin with this. Probably the reason that this is most easily understood is because it is the popular belief, at any rate in America, where our philosophical traditions inherited from the Scottish school encourage this world view. Dualism is the theory that mind and matter are the two fundamental realities in the world and that they cannot be reduced the one to the other.[1] Among primitive people, as well as among moderns, it seems very natural to distinguish mind from body in so sharp a manner as to make ultimate realities of each. Primitive man rarely failed to distinguish soul and body; the soul, though not perhaps immaterial, was a kind of duplicate of the body, or a shadowy image of it, and could leave it and might haunt the grave after death.

Even Thales and his fellow Ionians, although they seem to have been Monists, reducing reality to water or air or fire, still believed apparently that these material things were infused with life or with a divine and animate principle which made change

[1] The word *dualism* is ambiguous, being used in philosophy in two senses. It has sometimes been used to designate the belief in a good and a bad principle, which lie at the root of all things. For instance, in the religion of Persia, Ahriman and Ahura-Mazda (Ormazd) stand for two eternal principles of evil and good. In this sense there is a dualism in Plato, for he taught that Being and Non-Being are two primordial principles, the latter being the source of imperfection.

and growth possible. Empedocles, in counting fire, water, earth, and air as the roots of all things, still thought he must add two others of a more mental or spiritual character, namely, love and hate, the latter serving as moving causes. And Anaxagoras postulated besides the world of atoms something which he called *Nous* (Νοῦς), or *Mind*, an eternal reality coexisting with the other elements. Mediæval philosophy was likewise dualistic, following Saint Augustine, who considered man as the union of body and soul, the soul being an immaterial and immortal substance.

Metaphysical Dualism

The powerful dualistic current in modern thought, extending even to our firesides, took its rise in the philosophy of Descartes, who is called the founder of modern philosophy and whose *Meditations*, published in French and in Latin at the middle of the seventeenth century, have exerted an untold influence on our modern ways of thinking. Descartes' teaching was that there are in the world two wholly different kinds of reality, or "substances," as he called them, *thought* and *extension*, or, as we should say, *mind* and *matter*. The whole physical world, including the bodies of animals and men, is extended substance — matter, as we call it, or mass, governed absolutely by mechanical laws. Matter in motion constitutes the physical world. The lower animals are just mechanisms. An animal has no soul; he is only a material body. Not so man, for within his material extended body there is a thinking substance, the immortal soul, whose very being is to think.

This hard-and-fast metaphysical Dualism, as taught by Descartes, has at the present time few representatives in philosophy. We are not so fond of using the word "substance" now, either in referring to material or mental things. In the physical world we speak of energies and in the mental world of processes. And we are always searching for some principle of unity or of continuity or of evolution, so that the assumption of two elementary, wholly distinct, and mutually exclusive kinds of reality is less welcome. To modern philosophy it seems a little too dogmatic also to make

such wide generalizations, or to parcel out the Universe in this way into two exclusive regions. We are always trying to overcome this Dualism and find one rather than two ultimate forms of being; or else as is now still more congenial, to recognize at once an ultimate diversity in the world and a plurality of entities. Consequently, although Dualism is not without its able advocates at the present time, either monistic or pluralistic world views are more common.

Psycho-physical Dualism

But while the old metaphysical Dualism is now less emphasized, nothing prevents us from accepting a psycho-physical Dualism, which in human personality distinguishes very sharply the mind or spirit from the body. A powerful array of arguments may be brought forward in support of this "soul theory," and of the essential and fundamental difference between soul and body. A most able modern defender of this psycho-physical Dualism is found in William McDougall, whose book, entitled *Body and Mind; A Defence of Animism*, is passing through many editions. According to McDougall the soul exists as an independent form of being and interacts with the body. This view is sometimes called Interactionism. It is sharply opposed to Materialism, which affirms that the body alone is real and that the mind is only a function of the brain, or at the most a powerless accompaniment of cerebral activity.

Indeed, it seems most obvious and natural that mind and body are not only both *real*, but that they are wholly unique and never to be confounded. Two different sets of terms are needed to describe them. Matter is an extensive magnitude, filling space, having length, breadth, and thickness. It has weight and inertia and is moved by extrinsic, mechanical forces. We cannot think of any of these qualities as belonging to mind, which seems to have no spacial relations — only relations of time. Mind is characterized by a peculiar form of unity called personality, and a unique power of memory. It is spontaneous, self-determining, purposive, works toward ends, has interests, appreciates and realizes values, is creative.

Thus there seems to be no point of contact between mind, endowed with such powers as spontaneity, appreciation, constructive imagination, memory, and personality, on the one hand, and body, which we think of as a mere grouping of mass particles in space, on the other. Indeed, it seems sometimes as if the body were a sort of drag upon the mind, obstructing its operations, halting its flights. It is little wonder, therefore, that many philosophers have thought of the human spirit as belonging to a noumenal realm — that is, a world of absolute reality where freedom and spontaneity reign — while the physical world is phenomenal, where strict relations of cause and effect prevail.

Now this psycho-physical Dualism, which insists upon the unique character both of mind and of body, does not necessarily lead to a metaphysical Dualism, which affirms that in the world at large, or from the beginning, there are two ultimate and irreducible forms of reality, like mind and matter. It would, of course, be consistent with such a view, but it might be explained in other ways. What we call the body, appearing to us under the form of externality and exhibiting certain uniform methods of behavior which we call physical laws, may be made up of units which are not themselves like anything we call matter. Or mind and body, having the opposite characters which they do, may be two modes or manifestations of some third kind of reality, some basal cosmic stuff, the nature of which science may sometime reveal.

Interaction

If we insist on taking our stand on a hard-and-fast Dualism, we are confronted with the difficult problem of explaining the interaction of mind and matter. In the human personality it presents itself as the problem of the interaction of mind and body. How can two things having nothing in common influence each other, act on each other? It may, of course, be said that the problem of the interaction of two *physical* things, two billiard balls, two molecules or atoms, is quite as much unsolved. Mystery and insuperable difficulties confront us as soon as we try to explain how a billiard ball imparts its motion, or imparts motion,

to another ball,[1] so that we need not be too much worried by the difficulty of interaction between mind and body. The stock objection to such action arises from the law of conservation of energy, which tells us that the sum of energies in a closed system remains constant. Now, physical bodies are postulated as forming such a closed system, and if the body effects changes in the mind, or the mind causes motion in the body, we should seem to lose energy from the physical system in the former case, and introduce energy into the physical system from the mental in the other, a situation quite abhorrent to our scientific views. Scientists revolt against the notion of a mental world sending energies over into the compact and self-inclusive physical system. Physical energies change their form, appearing now as heat, light, or electricity; but they are all accounted for in the physical system and no new ones come over from a mental region.

Put in this way the objection to a dualism of mind and body seems conclusive. Possibly it *is* conclusive against the old view of mind and body as being parallel or correlated processes, but if we think of mind as a new kind of power achieved by the organization of bodily processes, mind and body may be fully distinguished and yet the law of conservation of energy in no wise violated. The subject of the relation of mind and body will be discussed in a later chapter. Here it is enough to say that the fact of the influence of the mind upon the body and the body upon the mind is obvious enough in our daily experience. Also clearly evident is the fact of the dynamic character of the mind. The mind *does things*, not only to the body, but to the world. It makes history, organizes science, creates art. The law of conservation of energy, on the other hand, is, like any other law, nothing but the generalization of a certain amount of experience, a useful formula, under which to introduce order into our descriptive treatment of phenomena. It is probable that a more complete knowledge of the mind-body problem would show us that there is nothing here in conflict with the law in question. *But if there were*, if the dynamic and effective character of mind *were* inconsistent with the law, the validity

[1] See Lotze's *Microcosmus*, book I, chap. II.

of the law itself would have to be reëxamined. Indeed, J. Arthur Thomson says of the law of conservation of energy that "it is rather a pious opinion than an established fact."[1]

Conclusion

What, then, in conclusion, are we to say of Dualism? I think we may say this: A mere psycho-physical Dualism, which insists that mental processes are not physical processes and that physical processes are not mental phenomena, would seem to be innocent enough. But as for metaphysical Dualism, which proposes to extend this dual conception to the whole world and insists that the Universe must allow itself to be harnessed up in a span like this, it would become increasingly difficult to defend. In particular, if one should say that there are two things in the Universe and two only, mind and matter, the statement would have little weight or meaning until we had subjected these two concepts to careful analysis.

While this older metaphysical Dualism of mind and matter appears to be somewhat outgrown, there is another kind of Dualism, which seems to lie very deep in the world movement. It is the kind which lurks in the philosophy of Plato and appears again in that of Bergson. The thought ever recurs to us that there is something which *obstructs* the action of mind in the world. Plato called it Non-Being, which has been identified with matter. In the religion of Zoroaster, it was Ahriman, the genius of evil. Physicists have not yet quite solved the antithesis between energy and matter. It is difficult to formulate a definition of energy which does not still involve something like matter. Or, if both be reduced to Space and Time, the Dualism persists. Progress seems to come through the overcoming of resistance. Evil has not yet been reduced to merely a stage of the good. Perhaps there is, after all, some fundamental dualism in things, which we cannot yet state in any definite terms.

But the old ontological Dualism seems now to be less satisfactory; and equally unsatisfactory is an ontological Monism. Perhaps it is better to treat Reality *genetically*, as a process, or devel-

[1] *The System of Animate Nature*, vol. I, p. 244.

opment, as a series of *events* rather than a grouping of fixed and imperishable elements.

In connection with this chapter read:

Oswald Kuelpe, *Introduction to Philosophy* (The Macmillan Company), pp. 133–38.

John Grier Hibben, *The Problems of Philosophy* (Charles Scribner's Sons), chap. III.

William McDougall, *Body and Mind; A History and a Defence of Animism* (Methuen and Company), chaps. XIII, XIV, XXVI.

Further references:

R. W. Sellars, *The Essentials of Philosophy* (The Macmillan Company), chap. XVI.

Wilhelm Windelband, *An Introduction to Philosophy.* Translated by Joseph McCabe (Henry Holt and Company), pp. 116–20.

William McDougall, *Outline of Psychology* (Charles Scribner's Sons), chap. I.

Joseph Alexander Leighton, *Man and the Cosmos* (D. Appleton and Company), chap. XXVII, "Mind and Body."

Henry Sidgwick, *Philosophy, Its Scope and Relations.* (The Macmillan Company.)

Bertrand Russell, *The Analysis of Mind.* (George Allen and Unwin, Ltd.)

CHAPTER XIII

THEORIES OF REALITY

[1] MATERIALISM

"'There's machinery in the butterfly,
There's a mainspring to the bee.
There's hydraulics to a daisy
And contraptions to a tree.

"'If we could see the birdie
That makes the chirping sound
With psycho-analytic eyes,
With X-ray, scientific eyes,
We could see the wheels go round.'

"And I hope all men
Who think like this
Will soon lie underground."

VACHEL LINDSAY

Monism

MATERIALISM, as we have seen, is a form of Monism. Monism asserts that the world is in some way unitary; that it has a *oneness* of some kind, either of substance or of structure. Modern Monism emphasizes the structural or organic unity of the world, its wholeness, order, plan, or completeness; the world is, at any rate, some kind of unitary whole. The older form of Monism sought for the desired unity in some single substance, such as matter or mind. If the whole world is explained as merely a redistribution of matter, we should have Materialistic Monism or Materialism. If it is a redistribution of energy, we might have a kind of Dynamic Monism, or Dynamism. If the world is essentially spirit or mind, what we call matter being a mere manifestation or externalization of mind, then we should have Spiritualistic Monism, or Spiritualism, or Idealism. It will be necessary to explain these several views of reality more in detail.

Materialistic Monism

We may begin with Materialism. In its simplest form this theory affirms that there is nothing in the world except matter;

[1] Vachel Lindsay. *The Golden Whales of California.* (Copyrighted by the Macmillan Company. Reprinted by permission.)

that all objects of experience are composed of matter; that mind is either a form of matter, or a function or property of it. Materialists believe that the world is primarily a physical process, and that what we call mind is, so to speak, an incident in the process, a late product of organized matter as the latter appears in the brain of the higher animals.

Atomism

The word *atom* has a more definite meaning than the word *matter*, so that the term *Atomism* has sometimes been used instead of Materialism. Atomism was the view of Democritus and his associates in ancient Greece, their theory being that atoms and empty space are the only assumptions necessary to explain the world. The atoms, however, are in eternal motion, so that we seem to have not one basal concept, as Monism requires, but three — atoms, space, and motion.

Naturalism

Owing to the indefiniteness attaching to the word "matter," Materialism as a solution of the problem of reality is less in vogue now and its place has been taken by the theory known as "Naturalism." The older Materialism was very dogmatic. It felt quite sure that the whole world, including life and mind and human society and art and literature and human history, could be explained as the result of the redistribution of matter and motion, or of atoms moving in empty space — granting only sufficient time and the law of evolution and adaptation. It was particularly averse to assuming any creative force exterior to the movement of matter, any directive agency in the process, any vital principle or life force differing from mechanical forces, any entity such as mind, or any purpose, end, or value except in human affairs.

The new Naturalism differs little from the above, except that it places less emphasis upon matter as the substantial ground of the world and more upon the strictly mechanical character of the world process. It is less dogmatic about the substance out of which the world has evolved or is made, and, if it uses the term

matter at all, it is in connection with such terms as *force* or *energy* or *electricity*. In general, Naturalism places emphasis upon the physical sciences, especially upon physics and chemistry; and it is often inclined to think that the laws of these sciences are sufficient to explain the world even in its most evolved forms, such as organic life and mind and human history and human institutions. It places great emphasis upon the law of conservation of energy, and regards the world as a redistribution of energy, or of matter, or of both, and it relies profoundly upon the principle of evolution and adaptation as explaining the survival of structures and functions fitted to survive.

Thus, in its extreme form Naturalism differs little from Materialism, only stressing the concept of matter less and that of energy more. But *Naturalism* is a vague term and is often applied to the view known as Positivism, which, as we have already seen, refuses to carry philosophy at all beyond the results of the natural sciences. Naturalism in this sense does not become any part of philosophy, being merely the denial of the possibility of philosophy. On the other hand, the term *Naturalism* has recently been used in a new and liberal sense to denote an explanation of the world based, not on physics and chemistry alone, but on *all* the sciences, thus recognizing that the biological and mental sciences have certain distinctive characteristics due to novelties in their subject-matter, and recognizing also the validity of the theory of levels in evolution.[1]

If one could go still further and recognize the claims of logic and mathematics among the "natural" sciences, there would surely be no objection to the term *Naturalism;* but, on the other hand, the term would cease to have any definite meaning. If Naturalism means that philosophy should be based on the results of *all* the sciences, and that nothing but scientific methods are to be used in philosophy, many would welcome such a Naturalism. But "scientific methods" here would not mean merely the methods used in the physical sciences. In general, the term *Naturalism* is objectionable just as the term *supernatural* is objectionable; in both cases we have to define what we mean by *nature.*

[1] Compare R. W. Sellars, *Evolutionary Naturalism.*

The materialistic world view

In this chapter, then, we shall use the term *Materialism* rather than *Naturalism;* and if we use the latter term it will be understood in its generally accepted meaning, referring to a mechanistic or physico-chemical interpretation of the world.

Such a materialistic or mechanistic world view has appealed to many minds, owing to its simplicity and owing to its apparently close connection with the physical sciences, whose exact character has won for them our almost reverent respect. The picture of the world which it gives us is simple and attractive. One has only to think of infinite space, in which mass particles are in eternal motion. It is just the possible groupings or constellations, infinite in number, of these mass particles or atoms which constitute the objects of our experience — rocks and sea and air and animal bodies. The cooling surface of the once fiery Earth made possible finally those very complex carbon compounds called *colloids*, from which it was but a step to the colloids which we find in plants and animal bodies and to the simple cell, the unit of all life. Evolution shows us the method by which the simplest living cell may develop through chance variation and natural selection into the more and more complex bodies of plants and animals, until man himself appears with a highly differentiated nervous system capable of thought, feeling, and volition.

If the ancient Greeks found an atomistic and mechanistic picture of the world attractive, we can understand the powerful appeal which it makes in modern times when strengthened by Darwin's remarkable discoveries relating to the origin of species. The view commends itself by its simplicity, by the relatively small number of concepts which it must assume, and by the absence of troublesome problems of creation, of ends and purposes and final causes, and of vital and spiritual forces.

Historical

Historically this world view was held by the Greek atomists and by the Epicurean school, including the Roman poet Lucretius, whose great poem, *De Rerum Natura*, pictures in glowing hexameters the terrors of religion, and the freedom and emanci-

pation from fear gained to men in the knowledge that the whole Universe is nothing more than a monstrous grouping of harmless atoms, which were at first falling through infinite space.

In modern times a materialistic world view was advocated by the English philosopher, Thomas Hobbes, in the seventeenth century. In the following century, preceding the Revolution in France, Materialism was vigorously advocated by a school of writers of whom Diderot, Lamettrie, and d'Holbach were representatives. In Germany in the nineteenth century, after the downfall of the Hegelian philosophy, there was a vigorous school of Materialists, of whom the better known are Moleschott, Vogt, and Ernst Haeckel.

Ernst Haeckel

Haeckel wrote a little book called *The Riddle of the Universe*, which presented in popular form under the name of *Monism* the philosophy of Naturalism, strengthened by the Darwinian theory of evolution, at that time new in Germany. Although this widely read book contained a good deal of pseudo-science and introduced into philosophy what we may call a false simplicity, it purported to be *the* solution of the world problem which the much-exalted "science" of the nineteenth century sponsored. Science speaks and the world problem is solved. Haeckel wrote oracularly of a "law of substance," which is the conservation of matter and of energy; of infinite Time and of infinite Space filled with the imponderable "ether" and the ponderable atoms; of the spontaneous generation of life from inorganic matter; of a certain kind of protoplasm called *psychoplasm*, which is the seat of conscious mind.

All of this, coupled with the new Darwinian theory of evolution, impressed a wide circle of readers and did much to popularize the materialistic philosophy of a little circle of German writers in the middle of the nineteenth century. Unfortunately, too, the book included a bitter attack upon current religious conceptions, giving the untrained reader the thought that science and evolution are incompatible with religion, thus aggravating the ancient but unnecessary conflict between religion and science.

A careful reading of this book of Haeckel's is illuminating, especially if read in connection with Sir Oliver Lodge's book entitled *Life and Matter*, and with the account of Haeckel in Edwin E. Slosson's *Major Prophets of To-Day*. One soon makes several interesting discoveries. For instance, the author says that "the two fundamental forms of substance, ponderable matter and ether, are not dead and only moved by extrinsic force, but they are endowed with sensation and will (though naturally of the lowest grade); they experience an inclination for condensation, a dislike of strain, they strive after the one and struggle against the other." [1]

This is even something more than the Hylozoism of the early Greek philosophers, which attributed life to all things; for Haeckel says that the original "substance" is "endowed" with a whole string of *psychic* qualities, namely, *sensation, will, experience, inclination, dislike, strife*, and *struggle*. Haeckel himself interprets this after the manner of Spinoza. Indeed, he calls himself not a Materialist, but a Monist of the type of Spinoza. But Haeckel's philosophy is hardly that of Spinoza, since he gives the psychic part of substance a sort of creative function, saying that feeling and inclination are "the active causes" of the original primary division of substance into mass and ether.[2] This seems, indeed, rather a system of Hylozoism than a system of Materialism, having its roots in a kind of profound Dualism, although Haeckel thought it was the strictest Monism. The materialistic aspect of his system appears, of course, in his theory of mind; that is, the human and animal mind, which he finds to be a function of the brain.

Materialism in the twentieth century

In the present century Materialism in the older sense has few representatives. It has given way to the theory of Mechanism, or to that of Naturalism in the limited sense which we have defined. As such it has many able advocates, perhaps not so much in the distinct field of philosophy as among men of science who

[1] Ernst Haeckel, *The Riddle of the Universe*, p. 220.
[2] *Loc. cit.*, p. 248.

have ventured into this field. Even here, however, the interest is not so much in the interpretation of the world in mechanistic terms, as in extending the application of physical and chemical concepts to the explanation of organic life and the human mind. The former tendency will be found prominent, for instance, in Jacques Loeb's *The Mechanistic Conception of Life*, and the latter in Dr. G. W. Crile's *Man — An Adaptive Mechanism*. The mechanistic conception of life we have discussed in a previous chapter, and the philosophy of mind will be examined in a chapter to follow.

The old antithesis between Materialism and Spiritualism seems to be losing its significance. Genetic and evolutionary concepts are taking the place of the older ideas of substance and matter. The new discoveries in radio-activity have changed almost overnight our whole conception of matter, so that the term "Materialism" would now have little meaning. And many other concepts formerly used in materialistic writings are undergoing such changes of meaning that they are no longer adequate to serve as a foundation for a system of philosophy. Even Herbert Spencer, although he said in his ambitious *Synthetic Philosophy* that the whole world could be explained as a redistribution of Matter, Motion, and Force, yet acknowledged that these are only symbols, modes of the Unknowable.

Difficulties

What, then, are the real difficulties with that theory of the world which we call Materialism? There is one class of difficulties constantly urged against it which do not seem to me to have great weight. These are epistemological objections. A great deal was formerly made of these. It was said that apart from mind none of the so-called realities that Materialism puts in the first place has any existence. Matter is an abstraction of abstractions. Only individual things exist, like "this typewriter" or "this pen." "Typewriter" and "pen" are general terms, or abstractions, existing only in the mind, and "matter" is a still more general term, being merely a name which summarizes a few qualities belonging to all objects of perception. And even indi-

vidual things, like "*this* typewriter" or "*this* pen," have no existence independent of the perceiving mind, being at the best merely a grouping of sensations. And if, instead of matter, we wish to speak of atoms or electrons, the case is no better. They are creations of the mind, models or pictures which the mind creates in its attempt to explain the objects of sense. And again the case is no better, if in place of matter, or atoms or electrons, we substitute the word *force* or *energy*. We have no direct knowledge of force. We see things move and we think the motion needs a cause, and so we assume a force to serve as the cause of motion. We see work done and so we assume *energy* as the cause or ground of the work.

Or, again, if we mean by matter some ground or substratum or substance, since the actual qualities which we see and feel seem to need some "substance" in which they "inhere," it is replied that all these are nothing but words. We have no experience of any such substratum, and no reason to believe that anything real corresponds to these words.

These objections, so often urged against Materialism, are perhaps hard to answer, but they produce little conviction. The atom, which we picture to-day as an energy-system of electric charges, may be just a model making picturable the outer causes of our sensations, and the model may be changed by the next generation of scientists, but the conviction remains that *some* model is the true one and that atoms are realities. Indeed, such a knowledge of the atom is being gained to-day that we may say it is getting past the picturable model stage and is becoming a reality. I believe that there is a growing tendency now to accept the work of science at its face value, and to trust the picture of the world as presented by science as in the main a true picture of the objective world as it is, independent of the perceiving mind. It is easy to show that mountains, trees, and plains are mental constructs, but nevertheless mountains, trees, and plains existed before ever eye of man beheld them.

Therefore, let us say that molecules, atoms, and electrons are real, real and objective entities; that matter is real and energy is real. *They are real, but not necessarily ultimate.* They again

may be resolved into something more primordial still, and, furthermore, they are not the only realities. The weakness of Materialism is found in its absurd claim, characteristic of the older Materialism, that matter or atoms or mass particles or mass particles in motion are the *only* realities. They are real, but so are many other things, such as space and time and energy and organization and creative synthesis and evolution and heredity and life and mind and values and logical and rational principles.

When a class of young people, students of philosophy, are first presented with the profound question, What is Reality? I have usually found that they are not very much interested in Materialism as an answer to the problem, because such things as matter and atoms and force do not appear to them to be the *real* things in the world. Life is much more real, and so are love and desire and longing and poetry and friends and society and work and play and beauty. Just what do we mean by the word *reality*, when we say that matter and atoms are more real than these other things? Browning's line

> Sun-treader, I believe in God and truth
> And love;

meets with more response than the legend of the Materialist, who says: "I believe in mass particles in motion." Why not say that the *interesting* things in life are the *real* things? What warrant have we for believing that a process of analysis gets us *down* nearer to realities? Why may it not be that a process of synthesis gets us *up* nearer to realities?

To which, no doubt, the Materialist would answer: "I do not care to follow you into that region of thought. I supposed you were trying to find out what the elementary things of the world are, its material, its substance." Well, we were trying to find out what the realities of the world are, and of course the process of analysis which carries us down to elements is also interesting; but the electron theory has shown us that atoms are not ultimate elements and there is no reason to think that the electrons are ultimate. So far as we go in our analysis we shall find *form* and *organization* just as ultimate as the elements, and perhaps far more

significant. If atoms are organized into molecules and cells, and these into living bodies which live and love, why is not the organization itself, and the organizing power or agency, as fundamental as the atoms, and as significant — or more fundamental and more significant?

We can understand, therefore, why the great philosophers of history have, for the most part, not been Materialists. Plato found ideas more real than atoms. Aristotle thought that form was as primordial as matter, and indeed more so, since God is pure form. Saint Augustine believed God to be more real than matter, and indeed to have made matter. Leibniz thought that the world is reducible to a great society of Monads, which are not material but spiritual. Berkeley believed that nothing is real except minds. Kant taught that duty and good-will belong to the noumenal or ultra-real world, while matter is only phenomenal. Hegel believed that reality is found in a process of development, by which the Absolute Reason or Thought eventually attained to the goal of art, religion, and philosophy. Schopenhauer said that reality is found in Absolute Will, while many modern thinkers have taught that there is nothing more real or more ultimate than Self or Personality.

After all the debate and with all the new matters for the intellect to weigh, it is doubtful if the soul has lost anything of its interest to the imagination. Some of the old abstractions about it have, to be sure, lost their significance. It is no longer viewed as a mysterious visitor in the body whose real home is elsewhere, nor is it longer considered as wholly of the emotions and intuitions and somehow removed from mind and intelligence. Body, mind, and soul appear more than ever irretrievably bound together, yet those things which respond neither to the mechanics of matter nor to the laws of reason are still chief among human values and most appealing to literature. Soul, self, mind, character, personality, by whatever name it is called, still continues to inspire the creative imagination both of those who extol and those who belittle its power. The spiritual life of the individual, or the nation, or the race comes more and more to demand the services of literature. Its priesthood may include idealist and materialist, optimist and pessimist, so long as they are worshippers of the spirit in its manifestations of love, sacrifice, magnanimity, kindness, honesty, and faith.[1]

[1] Ashley H. Thorndike, *Literature in a Changing Age* (copyrighted by The Macmillan Company. Reprinted by permission), p. 188.

In the remaining pages of this chapter we shall go on to examine what the actual physical foundations of the Universe are — what this "matter" is which figures so prominently in materialistic philosophy. But after all, I suppose that the true way out of the materialistic swamp, if swamp it be, is the path indicated in the passage just quoted from Thorndike. It isn't so much a question of the *stuff* out of which the world is made as it is of the *realities* in the world. And the answer to this fateful question must be sought, not merely in science, but in literature, art, religion, and in daily life; and I think that the *real* things are not alone matter nor atoms nor molecules nor electrons — but life and soul and personality and love and sacrifice.

What is matter?

Before we leave the subject of Materialism, there is one other path of inquiry that should be followed. Suppose for the sake of the argument we make the hypothesis that there is nothing in the Universe except mass particles in motion, and no ultimate laws except those of mechanics, and no world process except a process of evolution, by which only those chance groupings of elements survive that are best adapted to survive. It then becomes exceedingly interesting and important to examine these mass particles and inquire into their substance, their structure, and their potencies. If there is nothing in the Universe except these mass particles, perhaps in the end we should find that to account for the world of order, beauty, and reason, together with mind which can appreciate the order, beauty, and reason, we should have to read back into those mass particles vastly more than the term "mass particle" means in physical science.

However, let us pass this difficulty and inquire into the structure of the atom. We may glance first at the history of the atom, full of interest to the student of philosophy.

The atomic theory

Democritus, who first developed the theory of atoms, gives us a picture of the atom as it was conceived by the ancients. It was a minute *body*, invisible, indivisible, solid, uncreated, and inde-

structible. It had a certain size and shape. All atoms were alike in quality or substance, differing only in shape and size. The Greek atomists seemed to think that atoms were indivisible because they were solid. Of course, having size or extension in space, and a homogeneous substance, they were not indivisible in theory. If any one believed in such atoms now, he would have to ask what they were made of, thus raising the original problem — and he would wish also to know what is meant by absolute *solidity*. These little particles were supposed to be in eternal motion and it was the collision and impact of these particles which gave rise to the objects of our experience.

Perhaps it was the difficulty of conceiving how a complex and growing world could arise from the mere mechanical impact of atoms in motion that led Lucretius, while adopting the materialistic philosophy, to give to the atoms at the start a kind of spontaneity or freedom resembling the freedom of action possessed by man.[1] No doubt it was the same reason which impelled Haeckel, as we have seen above, to endow his primitive atoms with psychic qualities, such as sensation and will.

In modern times a very different kind of Atomism was proposed by the philosopher and mathematician, Leibniz (1646–1716). The ultimate units of reality he called *Monads*. These Monads are not extended material things, but forces or force-centers, and they are of a spiritual or mental character, rather than material. What we call a material body is a grouping or organization of Monads.

In the science of the present day, the atom, like the Monad of Leibniz, is no longer a "body," a solid, extended, material thing. In chemistry it is, rather, the hypothetical unit whose organic union with other atoms enables us to explain objects of sense experience. In physics it is a complex structure of smaller units. Lord Kelvin pictured the atom as a vortex-ring in the ether, having the peculiar form and motion of a smoke ring blown from the smoker's mouth. This theory has now been abandoned, and, through the labors of a brilliant group of scientists,[2] we have

[1] Lucretius, *De Rerum Natura*, book II, 277–93.

[2] Especially Sir William Crookes, Lenard, Röntgen, Becquerel, Professor and Mme. Curie, Sir J. J. Thomson, Sir Ernest Rutherford, Sir W. Ramsay, and Soddy, Bohr, Sommerfeld, Milliken and Page.

now come apparently to a real, if partial, knowledge of the structure of the atom. At any rate, of all the brilliant triumphs of nineteenth-and twentieth-century science, these researches into the electrical nature of the atom are the most startling.

We have been accustomed to think that the eighty-odd elements, such as hydrogen, oxygen, carbon, copper, gold, silver, and lead, were the foundation stones of the physical world. The spectroscope reveals the presence of these same "eternal" elements in the Sun and distant stars. We thought the Universe was made of them. And we supposed that they were fixed and indestructible, and we had long been accustomed to make merry over the search of the alchemists for the philosopher's stone for transmuting other cheaper metals into gold.

But now, behold, some of the elements, such as radium and uranium, are disintegrating right before our eyes. They emit strange "rays," some of them possessing wonderful photographic powers, putting to shame the photography of ordinary light, since these rays cheerfully pass through a foot of iron, and make nothing of penetrating the human body to photograph our bones. Some of them are atoms of helium gas, hurled from the element at the rate of twelve thousand miles a second. Others — the really interesting ones — are the now famous electrons. They, too, are being hurled from the element at the amazing velocity of more than one hundred thousand miles a second. It was soon discovered that the atoms, in giving up the electrons, are parting with their very "substance," and yet the electron is not exactly a substance. It is a charge of electricity, a disembodied charge of negative electricity. It would thus appear that substances are not made of substance, nor material things of matter.

It is now believed that the atom is a "structure," or a kind of energy-system, composed of positive and negative charges of electricity, having a minute core of positive electricity, about which revolve the electrons or the negative charges. Some atoms, like those of hydrogen and helium, very light gases, have only one or two electrons; other heavier ones, like gold, have more; while uranium is supposed to have ninety-two. It appears that the atom is a structure somewhat like our solar system

in its plan, the tiny core of protons and electrons corresponding to our Sun and the electrons to our planets, the distance of the electrons apart being, relative to their size, as great as that of the stars in the heavens. In other words, the atom, like the starry universe, is *very* empty. As for the size of the electrons and their mass — for they have mass, and it is interesting to see how mass is coming to be merely a function of velocity — it is only 1/1840 of a hydrogen atom. If an atom were magnified to the size of a church, then an electron in it would be hardly larger than the period at the end of this sentence. And the atoms themselves are small enough, there being about 54,000,000,000,000,000,000 of them in a cubic centimeter of hydrogen gas. The diameter of a hydrogen atom is "about two hundredths of a millionth of a centimeter, but this is about one hundred thousand times as large as that of the electron, so that the diameter of an electron is about two tenths of a millionth of a millionth of a centimeter."[1]

Now, the amazing smallness of the electrons and their incredible velocities are things to wonder about, but they are not of especial interest to the student of philosophy. What he is interested in is the problem of reality, and what he wants to know is what the electrons are made of, since they are, according to the theory now assumed, the "stuff" of which the world is made. But before we take up this problem, it may be well to tarry for a moment over certain other wonderful revelations of these studies in radio-activity. One of them is the fact that a prodigious amount of energy is locked up in the atoms of ordinary matter, and is liberated when the atoms are disintegrated, and conceivably might be used. A single pound of ordinary matter, it is said, contains enough energy to drive all the ships of our navy. It is possible that science will learn how this energy may be utilized, taking the place ultimately of our spent coal mines and gasoline wells. This, we might suppose, would be a great boon. Possibly; but I think it was Sir Oliver Lodge who said he hoped that this discovery would not be made until man had acquired sufficient moral balance to be trusted with this new store of en-

[1] John Mills, *Within the Atom*, p. 14.

ergy. From present indications that will not be soon. Sir Ernest Rutherford, however, in a later address[1] expresses doubt, not only about the availability of this energy, but even about its existence in other atoms. He suggests that "the presence of a store of energy ready for release is not a property of all atoms, but only of a special class of atoms like the radio-active atoms which have not yet reached the final stage of equilibrium."

Thus it comes about that the atom, instead of being, as was formerly thought, a stable and imperishable entity, has all the marks of being a created thing. It seems to be a kind of structure and a storehouse of energies. It seems as if some one or something had made it and stored up the energy in it. Probably this creative process has extended through inconceivable ages of time, taking the form, perhaps, of an inorganic evolution, in which the heavier elements have been evolved from the lighter gases in some "cosmic crucible." If this be true, we instinctively wonder what the agency is which has accomplished this. This is all, of course, very speculative. Here and now it seems to be the reverse process that is going on, the disorganization rather than the creation of the elements.

But now let us return to our original problem and see whether in the light of the electrical theory of matter we can get any notion of the stuff of which the physical Universe is made. At first sight it appears that we have traced reality down to the electron and the proton, both being forms of electricity, so that, if we would know what the world is made of, we must find out what electricity is. And so again we repair to the physicist and ask him what it is. To which he replies that electricity is merely a name inclusive of a certain class of phenomena, of which the simplest illustration is the behavior of a piece of sealing wax when rubbed by a piece of silk. Such a piece of sealing wax is found to "attract" small objects like paper and pith balls. What electricity is, he says, we do not know.[2] It appears now to be atomic or granular in its structure, but

[1] In *Science*, September 21, 1923.

[2] See the interesting chapter entitled "Foundations of the Universe" in *The Outline of Science*, edited by J. Arthur Thomson, vol. I, and the book by John Mills, *Within the Atom*.

strictly it cannot be spoken of as either matter or energy. Possibly the electric particles are merely regions of stress or strain in the ether, so that the conviction arises that, after all, if we would go to the very bottom of this subject, we should find that *energy* is the one ultimate thing in the physical world. Scientists are, however, not generally ready to make this final statement. Just at present about all we can say with confidence is that there are three ultimate things, electricity, ether, and energy. And since ether is in doubt, there remains, perhaps, the final antithesis between electricity and energy.

Energetics

It has, however, for a long time been the conviction of some philosophers and scientists that energy is the final unity which our minds so love to find in nature. The view called "energetics" has been a scientific creed rather than a philosophical theory, but it is closely related to the view of many philosophers. It has been said that all the fundamental attributes of physical things, such as inertia or mass, or even of extension, are functions of velocity and can thus be reduced to energy.

If, now, one should hold this theory and attempt to gain from it a philosophy of reality, he would at once wish to know what energy is. But to this question again the science of physics can render no final answer. We learn that there are many kinds of energy — kinetic, potential, electric, and the energy of light and heat. We learn further that, while energy changes its forms — energy of motion, for instance, being turned into light or electricity — the sum total of energy in a closed system remains the same; no energy is ever lost or created. So we have the law of the conservation of energy. Energy has actually been defined as that which remains constant. Usually energy is defined as the capacity for doing work. But this definition is of little use to the student of philosophy, for, while there is lots of work being done, some of it evidently of a creative kind, he is anxious to know who or what is doing the work.

However, it appears upon further investigation that the physicist *does* know a great deal more about energy than that

it is the capacity for doing work and that the sum of it is constant, but his knowledge is of the *quantitative* kind. This knowledge does not tell us what energy *is*, but it tells us what mathematical ratios prevail in its various manifestations.[1] When we wish to know what energy is, what it is like, science cannot tell us. But it is just this qualitative character of energy which the student of philosophy wishes to know about, a wish perhaps never to be satisfied.

Nevertheless, this possible theory has been advanced. Although we cannot know what energy is in itself, there is one kind of energy which we do seem to know something about *qualitatively* — and this is the energy which we ourselves exert in *willing*. *Effort* seems to be a kind of energy and one of which we do seem to have some immediate knowledge. We may, therefore, make the hypothesis that physical energy is in its real nature *Will*, something of the nature of *psychical energy*.

If to this the physicist responds that it is a mere guess and without evidence, one might reply as follows: "But you as a physicist have *no* theory of the real inner nature of energy, and this is at least *one* theory." Furthermore, one might add, the theory that the ultimate energy of the world is psychical does find support in many ways. It would explain possibly the one thing in the world which Naturalism finds it so hard to explain, namely, mind; and it would seem to account for the creative activity so much needed, if we are to get any complete picture of the world movement. We hear much now of "creative evolution" and "creative synthesis," of organization and integration. These seem to be fundamental realities, which we have to assume, if we are to explain the evolutionary process; and it would unify our picture of the whole of reality, if we could think of the energy which physical science seems disposed to put at the very foundation of the physical world as a kind of psychical energy or Will, or perhaps Creative Will. Many philosophers from Schopenhauer down have made the postulate that *Will*, or *Absolute Will*, is the ultimate reality. Such views

[1] Compare Perry, *Present Philosophical Tendencies*, chap. IV. Also Boodin, *A Realistic Universe*, chap. III.

would be greatly strengthened if it were possible to believe that energy is the sole reality in the physical world and that such energy is of a psychical character. That some modern physicists are thinking along these lines may be illustrated by the following quotation from an English scientist:

> What we have to contemplate is, in my opinion, the remodelling of our system of dynamics on the basis of energy in the place of mass. We may then begin to contemplate the ultimate possibility of a future remodelling, in which mind will replace energy as the fundamental basis of the physical scheme.[1]

This world view that energy is the foundation of all physical reality and that energy qualitatively considered is psychical in its nature — something like will — is certainly attractive. It is a monistic view, and although it was suggested by tracing down the physical constitution of material things to their final ground, it turns out to be not Materialism at all, but a kind of Dynamism, and in the form mentioned above almost identical with Spiritualism, since it finds as the world basis something like mind.

Attractive as the view may be, however, it encounters serious difficulties. The first of these is the supposition — gratuitous it may seem to some — that energy is in its inner nature psychical. That the living and changing world does require the assumption of an organizing and integrating power we have come to believe through the study of living forms and their evolution; and that this is a purposive power in some sense has also appeared to be reasonable; and that it is something of the nature of Will is possible. If this be true, it would perhaps be permissible to apply the adjective "psychical" to it; *but that this is what the physicist means by "energy" is almost surely not true.* To say, therefore, that science has reduced matter to energy, and that this energy qualitatively considered may be something psychical in its inner nature, is to say what has little meaning to a physicist. Energy to him is nothing more than that peculiar capacity which things in their various states have

[1] G. W. DeTunzelmann, *A Treatise on Electrical Theory and the Problem of the Universe* (J. B. Lippincott Company), p. xvi.

of producing changes. He cannot know, and does not try to say, what energy *is*. He does not even say what energy *does*. He sees that work is done and that changes are produced, and this capacity he calls energy; and this capacity can be measured and expressed in various equations and formulæ, and this is as far as his knowledge goes. The trouble comes, as Perry points out, in thinking that because "energy" is a single word, therefore it is a single thing or entity. So far as the actual knowledge of the scientist is concerned, energy is a ratio or relationship between elements of our experience. Of course, the physicist does not know that there may not be some metaphysical entity corresponding in some way to what he calls energy; but energy as he knows it is not such an entity. Indeed, energy is less emphasized in the new physics, especially since the theory of relativity has become prominent, "atoms of action" taking the place of energy, according to the quantum theory.[1]

Another difficulty with the theory called *Energetics* arises from the fact that science does not at present reduce ultimate physical concepts to one — namely, energy. The present analysis seems rather to stop with two — energy and electricity — or perhaps with three — energy, electricity, and ether. Furthermore, it appears that positive and negative electricity are different "entities," if we may call them entities, so that any *monistic* hope coming from pure science seems to be vanishing. The physicist cannot answer the question, which we as students of philosophy are eager to have answered, about the ultimate nature of reality. All that he can say is that in his analysis of physical phenomena he finds these three or four ultimate concepts, in terms of which he can formulate what happens within the field of his science, namely, positive and negative electricity, energy, and perhaps ether.[2] Of course, then, the student of philosophy would doubtless reflect that

[1] See Bertrand Russell, *The A B C of Atoms*, chapter XII.

[2] Or, stated more accurately, according to Mr. Russell, electrons, hydrogen nuclei, and (according to the quantum theory) atoms of action. Mr. Russell suggests the possibility, speculative at present, that the electrons and hydrogen nuclei may be "states of strain in the ether or something of the sort," so that the ether may after all be the ultimate reality.

while such a group of concepts may suffice for the physicist, it would not necessarily suffice for the biologist, who would need these concepts and others, such as life itself, or creative synthesis, or the direction and coördination of energies. And he might also reflect that even the physicist's analysis of the total situation in his own field must, to be complete, add another concept, namely, the mind which does the observing and the formulating. Still further, it would appear that any analysis of the complete situation, even a merely "physical" situation, involves mathematical and logical as well as physical and psychological facts. The final result seems, therefore, to lead to some form of Pluralism rather than to any kind of Monism.

At any rate, Materialism has passed away. It has no longer any interest either to the physicist or the philosopher. The analysis has gone far beyond "matter." Even if we substitute electricity for matter, it is evident that there are other *realities* in the world than electricity. Dynamism is a little better, perhaps, for, by its interpretation of all reality in terms of action and, possibly, of Will, it seemed to penetrate nearer to the core of reality. But it gets slight comfort now from the physicist. Finally, Naturalism seems to have fared little better. It is a little difficult to know what Naturalism means, and when interpreted monistically it encounters no less difficulties than Materialism.

But, after all, is it a fruitful method of studying philosophy, this attempt to analyze our rich experience into certain lifeless elements which we call first principles? Is there any such science as ontology? Perhaps reality is to be sought in *events*, rather than in first principles.[1] Possibly electricity, energy, and ether are neither ultimate realities nor first origins. Perhaps the mathematician's discovery of Space-Time takes us back to a "stuff" more primordial even than the electrical

[1] The traditional view of reality as consisting of material particles existing in a spaceless time and moving in a timeless space seems no longer to be maintained even by physicists. Compare Mr. A. N. Whitehead's two noteworthy books, *The Principles of Natural Knowledge*, and *The Concept of Nature* (Cambridge University Press). Compare also the chapter entitled "The Revolt Against Matter," in R. F. Alfred Hoernlé's book, *Matter, Life, Mind, and God.*

units of the physicist. Perhaps reality is to be found in the forward look rather than in the backward look, in synthesis rather than in analysis. Or, if we must think that there was a time when only rocks and water and earth existed, with no life and no mind, perhaps rocks and water and earth represent just a stage in the world process, a halting-place of the Creative Will, or a stepping-stone to life and mind and society. Then we might say that life, mind, and social organization are the realities, and atoms and electrons just *indispensables*.

In connection with this chapter read:

Ralph Barton Perry, *Present Philosophical Tendencies* (Longmans, Green and Company), chaps. III and IV.

"Foundations of the Universe," in *The Outline of Science* (edited by J. Arthur Thomson, G. P. Putnam's Sons), vol. I, chap. VIII.

Further references:

Friedrich Paulsen, *Introduction to Philosophy* (Henry Holt and Company), book I, chap. I, pp. 53–86.

Bertrand Russell, *The Problems of Philosophy* (Home University Library, Henry Holt and Company), chap. I, "Appearance and Reality"; chap. II, "The Existence of Matter"; chap. III, "The Nature of Matter."

James Ward, *Naturalism and Agnosticism* (The Macmillan Company), vol. I. (The best criticism of Naturalism.)

John Mills, *Within the Atom.* (D. Van Nostrand Company.)

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F. A. Lange, *History of Materialism.* (Truebner and Company.)

W. K. Clifford, *Lectures and Essays.* (The Macmillan Company.)

Ernst Haeckel, *The Riddle of the Universe.* Translated by Joseph McCabe. (Harper and Brothers.)

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A. J. Balfour, *Foundations of Belief.* (Longmans, Green and Company.)

Bertrand Russell, *The A B C of Atoms.* (E. P. Dutton and Company.)

CHAPTER XIV

THEORIES OF REALITY

Idealism

Definition

Just as Materialism considers the Universe as grounded and rooted in matter, or in physical energy, so Idealism considers it as grounded in mind. In interpreting the world, Materialism puts the emphasis upon mechanical and efficient causes, upon the conservation of energy, upon the movements of mass particles in space. It makes mind an incident in the process of evolution, contingent upon a highly developed nervous system in the higher animals. Idealism, on the other hand, puts the emphasis upon mind, as in some way prior to matter. It says, in effect, if you seek for elemental things, you will not find them in matter and motion and force, but in experience, in thought, in reason, in intelligence, in personality, in values, in religious and ethical ideals. These are the world's realities and they have a cosmical rather than a mere human significance, while matter, physical bodies, and physical forces are in some way secondary, being perhaps a kind of externalization of mind or else a phenomenon or appearance to mind. Materialism says that matter is real and mind an incident or accompaniment. Idealism says that mind is real and matter just an appearance.

The two views seem thus to be radically and irreconcilably opposed. If either one is true, the other must be false; and philosophers generally have inclined to think that one of the alternatives is true. But the opposition has become much softened of late. Recent studies in physics have changed our notions about matter. Recent studies in psychology have changed our notions about mind. Perhaps what we call matter is not so primordial as we used to think. It may be reduced to the electric charge, to pure energy, to singularities in the space-time manifold, or, as Mr. Whitehead so wisely tells us, to the

"passage of events," thus becoming a mere halting-place in the cosmic process. There seems to be something back of the physical, logically prior to it, conditioning it. And evolution itself may be creative. Creative synthesis may be the condition of any advance in evolution, and creative synthesis seems to lie quite outside the system of physical concepts which used to be invoked so confidently in the older Materialism and Naturalism.

And our notions of mind have changed. It is no longer that simple substance, whose nature is to think. Mind is a highly complex affair, including profound impulsive cravings, adaptive behavior, selective choice, and finally consciousness and meaning and personality. If in its most highly perfected form, as in human personality, it is found only in connection with a highly integrated nervous system, it will by no means follow from this that it is an incident in the evolutionary process or less real than matter. Quite the contrary, it may be something which is the perfect realization of the whole evolutionary movement, the most real thing, in a sense the only real thing, itself creative, as we know that it is, of newer values, such as art, philosophy, literature, science, history, and appreciative of older values, such as beauty, righteousness, truth.

If Materialism means simply that matter and physical forces are structural stages which condition the full efflorescence of mind, a kind of ladder up which Nature climbs to mind, few could object to it. But if it means that mind is a useless and otiose appendage to a world process essentially physical, it is doomed to be superseded by a more idealistic world view. And if it means that something called matter was either the beginning or is to be the end of the evolutionary movement, or was indeed at any time an exclusive reality, it will be a philosophy difficult to defend.

Idealistic theories

But now we must examine more in detail that view of the world which is most opposed to Materialism. This view has usually been called Idealism, but since the latter word is ambiguous, sometimes referring merely to a theory of knowledge,

the idealistic world view is sometimes called Spiritualism. But this is also an ambiguous word, referring in popular language to a certain religious belief which hinges upon the possibility of communication with an alleged spirit world. Spiritualism in philosophy, however, means nothing more than that the world is grounded in spirit or mind. If the word "spiritualism" is more exact, the word "idealism" is more attractive and in more common use.

To write the history of Idealism would be almost to write the history of philosophy, so many of the world's great thinkers have been Idealists. But they have represented many different kinds of Idealism, sure to be confusing at first to the reader.

Platonic Idealism

The oldest system of Idealism in European philosophy is that of Plato, and perhaps after all it is the best. Nothing more wonderful than this has been projected by the creative power of human thought, perhaps nothing more elevated, possibly nothing more true. No real account of it can be given here. One must read some of the great Platonic dialogues as given in the beautiful English rendering of Benjamin Jowett; for instance, the dialogues called the *Phædo*, the *Phædrus*, the *Symposium*, and the *Protagoras*.

Plato was not an Idealist in the extreme sense that there is nothing in the Universe except mind. His teaching was rather that the significant things in the world — that is, the *real* things — are Ideas, and by Ideas he did not mean any kind of merely mental states. He meant real objective things or "forms" which are not material. They are eternal essences, forms or types, serving as patterns, ideals, standards, for the things of sense. Beauty, truth, justice, goodness, are illustrations of such Ideas. These are the cosmic realities, while what we call matter he named Non-Being, not intending to say that it does not exist in a way but that it is without significance except as a kind of crude stuff or material; and even at that a source of disorder and evil and imperfection. The enduring things, the things worth while, are the things we think about,

not the things we perceive with the sense organs. Plato had little interest in things of the body, but an absorbing devotion to things of the spirit — to justice and beauty and mathematical relations and social ideals. His Idealism was more like that of popular thought; that is, a philosophy of ideals. Such a philosophical system as that of Plato could hardly be called Spiritualism, and if it is to be called Idealism, it is of an objective, metaphysical type. It is a philosophy of ideals rather than of ideas. In some ways, thus, the Platonic Idealism is more like the modern popular conception of Idealism, as a kind of moral striving after ideals or higher values, than it is like strict philosophical Idealism, which is the doctrine that only mind is real.

Subjective Idealism

Let us contrast the Idealism of Plato with a modern type, very different and perhaps harder to understand. George Berkeley, a brilliant Irish philosopher of the eighteenth century, thought that the sin and evil of his time came from a wrong philosophy, from Materialism; and he essayed to show that there is no such thing as matter in the sense of an inert substance existing independently. The things which we call material are objects of experience, and these objects of experience, such as trees and houses and clouds, are not material things; they are just perceptions. When we say that anything exists — for instance, a tree — we mean that it is perceived. It exists, of course, but it has no existence independent of a mind that perceives it. As we should say, an object like a tree is merely a bundle of sensations, and these are wholly subjective. The world, therefore, is a mental world.

What, then, *is* Reality? asks Berkeley. Only minds or spirits or souls are real, he replies. You exist and I exist and God exists; in other words, God, the infinite Spirit, and a realm of finite spirits. That which we call nature, with its regular laws and sequences, is simply the action of the divine mind upon our finite minds. We must not suppose, however, that Berkeley taught that objects of sense are illusions or that God deceives

us. Objects *are* real, only they are not independent of a perceiving mind. In fact, there is, said Berkeley, nothing in the Universe except the infinite Spirit and a realm of finite spirits.

This Berkeleian Idealism has sometimes been called "Subjective Idealism," and will be studied further in our chapter on "Theories of Knowledge," for evidently it springs from an attempt to define the limits of our knowledge. It does not seem to give us a very satisfactory theory of reality, for the first thing one asks is, What was the world before human minds existed? Were not the mountains and the seas and the stars existing then as now? Of course, Berkeley can argue — and his reasoning is subtle and hard to refute — that mountains and seas and stars are ideas in the last analysis. Surely, he would say, in those primeval days that you speak about, they were not *called* mountains nor seas nor stars, since there was no one to name them, nor were the mountains blue, nor the seas green, nor the stars red, for these colors are sensations depending upon the eye and there was no eye to see them. And so it is, said Berkeley, with all the qualities that make up these "objects" of perception. Try to imagine what you could mean when you say that anything exists when not perceived. You will be sure to attribute to it some quality of sensation, just as if it were perceived.

This philosophy, so skillfully defended by the witty Irish bishop, certainly reduces the whole world to mind with a vengeance. Only minds exist. So-called external things are merely the perceptions of sentient spirits. This is Berkeley's celebrated subjectivism, subjective Idealism, psychism, or mentalism, as it has been called. Later we may inquire as to its validity. Science perhaps cannot prove the objective and external character of the things it studies, but it usually makes the postulate that they are real and independent of the perceiving mind and this postulate vindicates itself by its results.

The Idealism of Leibniz

Let us now consider another kind of Idealism quite different

from that either of Plato or of Berkeley and more instructive than the latter, namely, that of the German philosopher, Leibniz, to whom reference has already been made in the preceding chapter. Leibniz believed, as we all instinctively do, that the physical things we see about us and study in the sciences have a real objective existence independent of the mind that perceives them; only when we come to examine into the real nature of these objective things, we discover that in their inner being they are mental or spiritual.

To understand this kind of Idealism, it is a good plan to go back to the theory of atoms. Consider that all objects of sense are made up of certain ultimate units commonly called atoms. But now think of these ultimate units, not as themselves physical or material things, having physical qualities such as size and shape, but as *psychical* units, little souls, having the power of perception and of development. They are centers of force rather than material things. Leibniz did not call them atoms, but Monads, and he thought that physical bodies are composed of groups of Monads, and that the human soul is a governing Monad. If it seems difficult to understand how physical bodies can be made up of unextended centers of force, we may recall that our modern atoms according to the electron theory are nothing but energy systems, and we cannot understand how even molecules are made of them. That physical bodies may be made up of centers of psychical energy need not present great difficulty to any one who has attempted to master the structure of the modern physical atom. If, however, Leibniz's Idealism seems to any one to be at a disadvantage here, it is, like other idealistic systems, at a great advantage when it comes to explaining mind, for the mind is, as Leibniz shows, just a Monad, an immortal and spiritual being, differing from the Monads that make up physical bodies only in its higher degree of development.

Panpsychism

Closely related to the last view, but more modern, is another kind of Idealism called *Panpsychism*. The word denotes the

doctrine that all reality is psychic in nature. Panpsychism, as it is usually held, teaches that everything has mind. Mind is not something gained late in evolution when organisms acquire complex nervous centers or a brain. Mind is universal throughout nature. Every atom or particle in the Universe has life, mind, and memory. The whole world, organic and inorganic, is thus vitalized and mentalized.

But if we think of every atom and particle having something psychical in it, of course we ask the question, What is the relation of the psychical to the physical part? To this question Panpsychism answers that the *reality* of the particle is psychical, and its physical part is only its phenomenal or outer aspect. Reality is contrasted with appearance. The former is mental, the latter physical. The reality of the world is found in "mind-stuff," perhaps in consciousness.

This kind of Idealism is welcome to many modern psychologists who have upon their hands the problem of the connection of mind and body. Dualistic and interaction theories have their difficulties. Mind and brain seem to be in incessant correlation. There is no psychosis without neurosis. And something like Panpsychism, or Psychical Monism, which affirms that the mind is the sole reality and the body its outer appearance as it is seen by others, seems to offer a solution of the problem.

Able and interesting expositions of this view may be found in Paulsen's *Introduction to Philosophy*, in the writings of W. K. Clifford,[1] in C. A. Strong's *Why the Mind Has a Body*, and in the writings of Samuel Butler. In James Ward's important book called *Naturalism and Agnosticism*, a somewhat similar theory is maintained, although the book is mainly critical, only the barest outline of a constructive view being presented. Ward points out that the concepts used in science and useful in the special work of science — such, for instance, as mechanism, causality, matter, and motion — do not have so profound and universal significance as is commonly supposed in these days of science progress. They do not apply to the deeper spiritual realities which lie back of the phenomenal world, so that in the

[1] *Lectures and Essays*, vol. II.

more real world of the spirit we can be assured of freedom, purpose, and God.

In the work of the remarkable German philosopher, Fechner (1801–87), a similar kind of Idealism appears. To Fechner the world is *ensouled.* The Universe is instinct with psychic life. Consciousness, as it appears in man, is only a part of a universal consciousness present in plants, in animals, in the Earth, and in the Universe. The world is a great organism, a psycho-physical organism, having, as has man, a body and a soul. This, however, is not interpreted dualistically, for the emphasis is all put upon the psychical side, which is the reality, while the body is the outer expression or appearance of the real inner soul life. Thus, plants and animals have souls, as well as man. Fechner speaks, too, of the Earth soul, and finally of the soul of the world, which is God. The physical world is but the outer expression of the inner life of God. The material Universe is the body of God, "the living visible garment of God."

> "'Tis thus at the roaring Loom of Time I ply,
> And weave for God the Garment thou see'st Him by.'[1]

This Fechner calls the Day view, as contrasted with the Night view of Materialism.

We shall be interested in reading the spirited defense of Panpsychism by Paulsen. The following passage is worth quoting:

> Spontaneous activity everywhere! Your inert, rigid matter, movable only by impact, is a phantom that owes its existence, not to observation, but to conceptual speculation. It comes from the Aristotelian scholastic philosophy, which, after having completely separated all force or form from matter, left the latter behind as something absolutely passive. Descartes gets it from this source; it was a concept convenient to his purely mathematical conception of physics: Matter is without all inner determination, pure *res extensa*, whose only quality is extension. Modern natural science has utterly discarded the idea of such absolutely dead and rigid bodies. Its molecules and atoms are forms of the greatest inner complexity and mobility. Hundreds and thousands of atoms are united in the molecule into a system that preserves a more or less stable equilibrium by the mutual interaction of its

[1] Read Carlyle's *Sartor Resartus*, book III, chap. IX, for this reference to Goethe's *Faust.*

parts, and at the same time is quickened by other movements — by such as are felt by us as light and heat, and others, which appear in electrical processes. And this system, in turn, is in constant interaction with its immediate surroundings as well as with the remotest system of fixed stars. Is it, then, absurd to ask whether we have, corresponding to this wonderful play of physical forces and movements, a system of inner processes, analogous to that which accompanies the working of the parts in the organic body? May not attraction and repulsion, of which physics and chemistry speak, be more than mere words; is there not an element of truth in the speculation of old Empedocles that love and hate form the motive forces in all things? Certainly not love and hatred as men and animals experience them, but something at bottom similar to their feelings, an impulsive action of some kind.[1]

Voluntaristic Idealism

When psychologists place great emphasis upon the *Will*, as representing the really essential and fundamental aspect of mind, we speak of them as *voluntarists*. So when philosophers say that *Will*, or *Absolute Will*, or a society of individual Wills, is the really fundamental thing in the Universe objectively considered, we may call this view Voluntaristic Idealism. This world view had its source in Kant, who in his practical philosophy exalts the Will as a kind of absolute reality. Schopenhauer is, however, the best representative of this theory. His great work is entitled *The World as Will and Idea*. It begins with the well-known statement, "The world is my idea." Thus far he agrees with Berkeley, but Berkeley's subjective Idealism he changes into an objective Idealism. If I examine my own mind, I find that the essential thing in it is Will, rather than intellect. The soul is activity, striving, struggling, desiring. My body is just the outward expression of my Will. So, Schopenhauer concludes, it is with the outer world. At heart it is Will, Absolute Will, and the phenomenal world which I see and hear and feel is the outer expression of the universal Will. Since, now, Will is something psychical, spiritual, and since all reality is Will, this system of philosophy is again to be classed as Idealism or Spiritualism. And it is objective or metaphysical Idealism, because the world is not merely my idea, but has as its basis an objec-

[1] Paulsen's *Introduction to Philosophy* (Henry Holt and Company), p. 101.

tive reality, namely, the Absolute Will. More recent forms of Voluntaristic Idealism have been advanced by Wundt and Münsterberg.

The Idealism of Kant

Schopenhauer's Idealistic philosophy, like most of those of modern times, had its source in Kant. *The Critique of Pure Reason* was published in 1781.[1] In this great work Kant shows that the world which we know and which we study in the special sciences is a phenomenal world, a world of appearance, a mind-made world. This seems like the subjectivism of Berkeley, but Kant did not deny that there *is* some objective reality back of phenomena. There is such a reality. We can think about it, but we cannot know it. Kant calls it the *Ding an Sich*, or thing-in-itself. Really the world that we know is ideal. Its whole structure is determined by the activity of the Ego and the forms of the mind. Even space and time are just forms of our sense-perception. Any given object — such, for instance, as a tree which I perceive — is a mental construction. The raw material, however, the sensations, are produced by an external reality, the nature of which we cannot know. Kant's philosophy is that more usually called *Phenomenalism*, which means that our knowledge is limited to phenomena. Phenomena or appearances are as near as we can get to reality, though there is a reality beyond them.

But, after all, this is not quite the whole story for Kant. In his practical philosophy, starting from the voice of duty, which speaks with an authority such as could not come from a merely phenomenal world, he arrives at a kind of noumenal or real world, a moral world order, giving us as necessary postulates God, freedom, and immortality. Thus, Kant's philosophy is thoroughly idealistic; it speaks of a world of ideas and ideals, yet is not that extreme Idealism which finds nothing real in the world except mind.

[1] One may read profitably from Watson's *The Philosophy of Kant*, containing selections from his works.

Absolute Idealism

One of Kant's successors, J. G. Fichte, taught a still more outspoken system of Idealism, in which all reality is swallowed up in the Ego; but it is the Absolute Ego, which is the supreme reality, and so we have the beginning of the Absolute philosophy, finding its best expression in the Absolute Idealism of Hegel.

What is the world? asks Hegel. What is reality? Reality, he answers, is thought, reason. The world is a great thought process. It is, as we might say, God thinking. We have only to find out the laws of thought to know the laws of reality. What we call nature is thought externalized; it is the Absolute Reason revealing itself in outward form. But nature is not its final goal. Returning, it expresses itself more fully in human self-consciousness and in the end finds its complete realization in art, religion, and philosophy.

Such a philosophy as this takes our breath away. It seems like Idealism gone wild. It is magnificent, divine, but is it true? It reminds us of Plato, who takes us to the heavens and makes us see that our home is there. Leaving out much of Hegel's forced and fanciful dialectic, there are aspects of his thought which are to-day suggestive. There is something fascinating in Hegel's notion of the world as a great process of development, a notion shared with him by those two thinkers who have contributed so richly to the history of thought, Aristotle and Darwin. But Hegel thinks of the world, not only as a process of development, but as a thought process, and adds finally that interesting suggestion that it has an ideal goal in art, philosophy, and religion.

Modern English and American Idealism

Since Hegel's death, and drawing from him in greater or less degree as well as from Kant and Fichte, there have been many systems of Objective Idealism. They represent a powerful stream of thought, fed by many leading minds in Germany, Italy, England, and America, ranging from Absolute Idealism through Theistic Idealism, Voluntaristic Idealism, Personalism, and Panpsychism. Prominent among English Idealists may be

mentioned T. H. Green, Edward Caird, F. H. Bradley, A. E. Taylor, J. M. E. McTaggart, Bernard Bosanquet, H. H. Joachim, and R. F. A. Hoernlé; while in America we have G. S. Morris, Josiah Royce, Mary Whiton Calkins, J. E. Creighton, George P. Adams, G. H. Howison, Borden P. Bowne, and many others. Books such as Royce's *Spirit of Modern Philosophy*, Bosanquet's *Principle of Individuality and Value*, Green's *Prolegomena to Ethics*, Calkins's *The Persistent Problems of Philosophy*, George P. Adams's *Idealism and the Modern Age*, Hoernlé's *Studies in Contemporary Metaphysics*, Howison's *The Limits of Evolution*, and Bowne's *Personalism*, represent the idealistic tradition in its modern form. They should be carefully read by every student in philosophy. Their *wholesomeness* and their ethical Idealism insure their lasting value.

No general summary can be made of all the forms of Objective Idealism here mentioned without doing violence to some of them. In general, however, these various forms of modern Idealism regard the world as essentially spiritual, rational, intelligible, transparent to our reason, having moral significance. More particularly the world is some kind of organic unity, having internal relations such that the whole is determined by the part and the part by the whole. Hence results a final unity with harmony in diversity. As for man, he is essentially a self, a person, and exists in organic relations to a society of selves and perhaps to an Absolute Self.

Nearly all of these systems of Objective Idealism are prone to speak of the Absolute, the Absolute Idea, or the Absolute Self, or Absolute Experience. And the Absolute, unlike the word *infinite* in philosophy, does not stand for a mere superlative of excellences. It means, rather, that final unity which has always been the quest of philosophy. It is the religious motive which gives us such joy in the shelter of the arms of the Absolute and it is the intellectual motive which finds such comfort in the notion of a final unity or wholeness or perfection.

Personalism

Special mention should be made of an interesting form of mod-

ern Idealism known as *Personalism*.[1] This philosophy takes its stand firmly upon the incontestable fact of personality. The one thing which I cannot doubt is the existence of myself as a person and a member of a society of persons. This philosophy emphasizes personality, freedom, self-determination, moral responsibility, the existence of real evil in the world, and of a personal God, who struggles and strives with us for the overcoming of evil. The physical world is phenomenal, after the manner of Kant, so that this system of philosophy is decidedly idealistic or spiritualistic. But the monistic character of modern Idealism has disappeared and the uniqueness and decisive individuality of the self in the society of selves gives to this philosophy a decided pluralistic turn. Personalism seems in a high degree to satisfy our religious needs, as escaping the pantheistic tendency of many other kinds of modern Idealism and putting a much-needed emphasis upon freedom, moral responsibility, and the presence of real evil.

Conclusion

What in conclusion are we to say in praise of Idealism or in criticism? To the student of philosophy so many different systems must seem confusing — as many systems, it would appear, as there are philosophers to make them. Perhaps they are all in error and no theories of ultimate reality are possible. But I think this attitude of discouragement is not at all justified. Perhaps there are common elements in all these systems. It may be that a careful analysis of them would show many points of agreement, or, what is better still, many converging tendencies.

Certainly the Idealists all have much in common. They refuse to believe that the world is a great machine. They deny the supreme importance of matter, mechanism, and the conser-

[1] Besides the writers mentioned, such as Borden P. Bowne, and G. H. Howison, attention should be directed to the journal called *The Personalist*, edited by Professor Flewelling at the University of Southern California. In England the personalistic emphasis is seen in the writings of H. Sturt, G. T. Stout, H. Rashdall, J. M. E. McTaggart, James Ward, and others. Most of these English Personalists emphasize the ethical quality of reality and the will in finite persons, while the American Personalists stick more closely to Kant and place more emphasis upon the idea of God and the religious motive.

vation of energy, as *explaining* our world. They feel that somehow certain sciences, such as psychology, logic, ethics, æsthetics, have to do with things basal and intrinsic, that they are quite as much a key to nature's secrets as are physics and chemistry. They believe that the world has a *meaning*, a purpose, perhaps a goal, and that there is a kind of inner harmony between the heart of the Universe and the soul of man, such that human intelligence can pierce through the outer crust of nature and penetrate to its inner being, at least in some slight measure.

Thus Idealism finds a kind of responsiveness to our human longings in the whole of nature. There is not merely the idle longing for immortality, for beauty, for righteousness, for an ideal life. There is a *demand* for them. Idealism thus answers to our ethical, æsthetic, religious, and romantic demands. It proposes an intelligent and an intelligible world, of which at least either the warp or the woof must be something akin to thought and feeling and will. In a word, Idealism believes that an actual *interpretation* of the world, not a mere description, is possible.

Perhaps nowhere has the spirit of Idealism been better expressed than by William James, the Realist, when he says that this world of wind and water is not the one divinely aimed at and established thing, but that we must believe in a spiritual order lying back of this material order and giving to the latter its value and significance.

The impatience that we feel toward idealistic theories of reality springs, no doubt, from several sources. Modern thought leans very heavily in the direction of the exact sciences, no system of philosophy being welcome which does not harmonize with the results of these sciences; and it has seemed to many that Idealism does not properly evaluate the concrete facts which are the objects of study in the natural sciences. We are irritated if we are told that these concrete facts are merely "phenomena" or appearances of some unknown thing-in-itself which "lies back of them," or that they are made of mind-stuff, or that they get either their form or their substance from the mind that perceives them.

But on the other hand, although perhaps in these days our

prevailing moods are scientific, we are not always in such moods. Sometimes we are in quite different moods, such, for instance, as ethical, æsthetical, religious, or social, and then we can understand the great truths which are embraced in the idealistic philosophies. Indeed, later systems of Idealism, such as those of Royce and Bosanquet, are based directly upon such great truths as those of individuality and value — and their appeal to us rests upon a recognition of the fact that the world revealed to us by the physical sciences is a true world but not the whole world, nor even perhaps a fair sample of the whole world, and that neither in the study of the sciences nor in the experiences of our divided selves do we quite get down to what Bosanquet calls "the real thing." Hence in such idealistic philosophies we find a release from the fragmentariness and conflict and division which commonly hedge us about. We long for unity and wholeness and ideal value and we cannot help believing that in the whole of reality, if we could grasp it, there is such unity and wholeness and value, and that our thought processes and our ethical striving and our æsthetic pleasures are in some way revelations of the essential structure of the world.

And so I think we may be Idealists without reducing the Universe to mind-stuff, just as we may be scientists without reducing it to matter-stuff. It is possible that Idealists have emphasized too much the processes of thought and inference in our minds as revealing the structure of reality and not enough the equally fundamental — perhaps more fundamental — quality of *Striving*. If we could think of the world as a great movement in which "formative impulses are struggling up through chaos into ordered freedom" or as a developmental process in which values, mental, moral, æsthetic, and social, are being slowly but surely realized, perhaps even against real obstacles, then we could still be Idealists, but Idealists who would speak less of *ideas* and more of *ideals*.

In connection with this chapter read:

Josiah Royce, *The Spirit of Modern Philosophy* (Houghton Mifflin Company), chap. XI, "Reality and Idealism."

Ralph Barton Perry, *Present Philosophical Tendencies* (Longmans, Green and Company), part III.

Further references:

Arthur Kenyon Rogers, *English and American Philosophy Since 1800* (The Macmillan Company), chaps. V, VI.

George P. Adams, *Idealism and the Modern Age.* (Yale University Press.)

Josiah Royce, *The World and the Individual.* 2 vols. (The Macmillan Company.)

Aliotta, *The Idealistic Reaction Against Science.* Translated by Agnes McCaskill. (The Macmillan Company.)

William E. Hocking, *The Meaning of God in Human Experience.* (Yale University Press.)

May Sinclair, *A Defence of Idealism* (The Macmillan Company) and *The New Idealism* (The Macmillan Company).

J. G. Fichte, "The Vocation of the Scholar," "The Nature of the Scholar," "The Vocation of Man," in his *Popular Works*, vol. I.

Hegel, *Philosophy of Mind.* Translated by William Wallace. (Clarendon Press.)

T. H. Green, *Prolegomena to Ethics.* (Clarendon Press.)

John Watson, *The Philosophy of Kant.* (The Macmillan Company.)

J. H. Muirhead (Editor), *Contemporary British Philosophy.* (The Macmillan Company.)
Contains personal statements by contemporary British philosophers.

CHAPTER XV

THEORIES OF REALITY

Pluralism

By Pluralism we mean the abandonment of the attempt to reduce all reality to either one or two ultimate forms of being. The world cannot be reduced either to mind or to matter, nor to mind and matter. Reality is neither one nor two, but many.

The older Pluralism

Examples of Pluralism in this sense are abundant. Empedocles, the early Greek thinker, was a Pluralist when he said that the four ultimate elements of reality are fire, water, earth, and air. Plato was a Pluralist when he reduced reality to the eternal Ideas, such as the Good and the Beautiful, for there are as many ideas as there are different concepts. Even Greek atomism, usually called the strictest materialistic Monism, was pluralistic in that the atoms have a kind of individuality depending on their size and shape. Modern Materialism — at any rate, previous to the advent of the electron theory — was a kind of Pluralism, since there are more than eighty different elementary substances.

Likewise Idealism, or spiritualistic Monism, often reduces to a kind of Pluralism, as in the case of Leibniz's system of Monads. Since the Monads are psychical in their ultimate nature, this system might be called spiritualistic Monism. Since they are all different from one another, each having a distinct individuality, we may call it Pluralism.

Obviously distinctions of this kind are of no great value in philosophy. The monistic impulse is satisfied when we find unity in variety, and when this unity is absent, it is better to speak of the system as pluralistic. That Leibniz's spiritualistic system of philosophy should be called Pluralism becomes evident when we notice how quickly we ask what brings the Monads into harmony and unity, and since Leibniz does not give an answer which is satisfactory, the monistic element is insignificant. Such

systems could be spoken of as systems of Monism only when our minds were ruled by the old notion of "substance." The atoms or the Monads were the same in substance.

But in recent times the word *Pluralism* has been used in a different sense. It indicates not so much an attempt to find out how many kinds of *stuff* the world is made of, and then to affirm that there are many kinds rather than one or two; nor even is it the attempt to construct the Universe of one kind of stuff moulded into many forms. It is rather an emphasis upon the many-sidedness and variety of the world; it is a protest against finding too much unity. This new Pluralism stresses the manifold character of the world, its variety and richness, its infinite diversities and novelties, even its discords and dissonances.

The monistic impulse

Possibly the monistic systems find their explanation simply in the infirmity of the human mind, which is helpless in the face of disorder and must find for itself some unity or system in things. It loves to reduce the manifold forms of experience to classes and the classes to larger classes, and in the end to reduce all things to some one final "substance" or being — to mind, to matter, or to God. Back of all minds it seeks the Absolute Mind; back of all spirit, the Absolute Spirit; back of all wills, the Absolute Will; back of all experience, Absolute Experience. The human mind in its eager effort to understand the world seeks always a guiding thread to find its way through the maze of details. It hopes to find a ruling purpose, which if it could be grasped would show that the whole thing is a plan — perhaps a wise and benevolent plan, having at its fountain head one absolute and omniscient ruler; and finally it hopes to discover one unitary substance, physical or mental, to which all reality can be reduced.

The pluralistic reaction

Now, Pluralism does not deny that there is a certain unity in the world; but in the face of the manifest diversities and inconsistencies and disharmonies which experience reveals, it hesitates to accept too easily the monistic solution. Students of philoso-

phy are beginning to feel that it is not quite so easy as at first appeared to find the guiding thread of life, and that it may be a trifle presumptuous to make too many affirmations about the *Absolute*. There is, no doubt, a strong pluralistic tendency among philosophers at the present time. The new astronomy, the new physics, the new mechanics, the new logic, all emphasize the diversities, the immensities — not to say the strangeness or the wildness of the world. In olden times it was very comforting and composing to believe that the Earth was made for man and rested securely in the center of the Universe, watched over by an omnipotent and friendly Being. But now we learn that our Sun is only one of uncounted millions, and that there are stars whose light, traveling at the rate of 186,000 miles a second, requires a million years to reach us.

If we wonder at the largeness of the world, we are amazed at the smallness of its parts, when we learn that the atom, which is so minute that a cubic centimeter of hydrogen may contain 54,000,000,000,000,000,000 atoms, yet is itself a system of electric particles as far apart relatively to their size as the stars in the heavens.

Again, it was comforting to believe that space, though infinite, is subject to the geometry of Euclid, and that the Newtonian physics rules throughout the Universe, and that both time and space can be measured by fixed standards; but the theory of relativity has revealed here also a larger and a stranger world. Even the old Aristotelian logic, with its doctrine of substance, and of attributes inhering in the substance, and its classes of things additively grouped according to likeness and difference, is giving place to a new logic with its many kinds of relations and the relations themselves objective and real. Even evolution, which a few years ago seemed like a kind of magic key, destined to unlock the secrets of the Universe, is now found to be full of difficulties and at best to apply only to a part of what in the broader sense we may call nature.

So Hamlet, when he says —

> There are more things in Heaven and Earth, Horatio,
> Than are dreamt of in your philosophy —

sounds the note of the pluralistic movement. Although the mind craves for unity, it loves variety, too, and the pluralistic world view is not without its compensations.

> The world is so full of a number of things,
> I am sure we should all be as happy as kings,

said Robert Louis Stevenson, and perhaps the adventurous spirit of the modern mind finds as much satisfaction in trying to solve the puzzle of a pluralistic world as the more fearsome spirit of the Middle Ages found in a wholly unified and comprehended system. Anyway, we have to face the fact of a world less unified, less integrated, and less harmonized than we used to think.

A pluralistic Universe

Not many years ago, William James wrote a little book called *A Pluralistic Universe*, which, together with his essay on *Radical Empiricism* and his *Will to Believe*, woke the philosophic world from its monistic slumber. It was James's mission in philosophy as well as in psychology to leave the old well-beaten paths of thought and strike out into new ones. A system of philosophy in the older sense he did not have, but both psychology and philosophy have been revitalized by the series of galvanic shocks which came from his pen.

James was weary of all the old absolutist philosophies, even as presented in their newest and most charming form by his colleague, Josiah Royce. James was not interested in the One, but in the Many. It is the "each-form," rather than the "all-form" of things that impressed him — their discreteness, their separateness, their independence, their novelty, their freedom, their contingency, their spontaneity, their manifold, yes, even their chaotic character. He did not find any "block universe" with "a through-and-through unity." Reality, he said, is of "the strung-along type." "The word 'and' trails along after every sentence." Reality is distributive rather than collective. Freedom exists, and chance and novelty and progress. "New men and women, books, accidents, events, inventions, enterprises, burst unceasingly upon the world." Why seek for reality in such symbols as mind and matter and atoms and Monads? "The per-

ceptual flux is the authentic stuff" of the world. "There is no possible point of view," says James, "from which the world can appear an absolutely single fact. Real possibilities, real indeterminations, real beginnings, real ends, real evil, real crises, catastrophes, and escapes, a real God, and a real moral life, just as common sense conceives these things, may remain in empiricism as conceptions which that philosophy gives up the attempt either to 'overcome' or to reinterpret in monistic form." [1]

The universe, in a word, is tychistic. Chance is real in it. Destruction is as possible as salvation, and evil is as actual as good. What is central is the fact that evil and good are *relations*, and not substances, that each entity which struggles can of itself and in its own right contribute to the everlasting damnation or eternal salvation of the world. There is no eternal law; there is no overarching destiny, no all-compelling Providence. Law itself is no more than cosmic habit, a *modus vivendi*, which things that have come together by chance, and are staying together by choice, have worked out as men work out communal customs facilitating contacts. Whether gravitation or tobacco-smoking, there is a difference in scope, not in history! And the spontaneous individualities whose collective habits the "laws of nature" express are greater and more real than those laws. These individualities in their privacy and inwardness are reals in the completest sense of the term, and through them the axis of larger being runs. How otherwise should the history of the cosmos unfold itself? [2]

Such a pluralistic world view as this does not in James's philosophy issue in any pessimism, skepticism, or fatalism. Quite the opposite. It gives us a real freedom, and it gives us a real God — not a mere all-embracing omnipotent world unity. And it solves the problem of evil, which in the absolutist systems seems so hard to explain. Monism, he says, really *creates the problem* of evil.

This pluralistic, pragmatic, radically empirical philosophy, as presented by James, has a spicy, stimulating flavor, whetting our appetites for something more. But all we get is more of the same kind and in the end we feel that something is lacking. It

[1] *The Will to Believe* (Longmans, Green and Company), p. ix.
[2] Horace Meyer Kallen, *William James* and *Henri Bergson* (University of Chicago Press), pp. 182, 183.

is, perhaps, because of the mind's insistent demand for a unified world view that one feels a trifle impatient with the author of *The Pluralistic Universe* for not telling us something more definite about this Universe and the nature of the reality which lies beneath the perceptual flux. But perhaps James thought that we have already too many completely unified *systems* of philosophy.

Pluralism among the new Realists

If the "radical empiricism" of James issues in Pluralism, so also, it seems, does the quite different philosophy of the New Realism.[1]

In this case it is not the richness and variety of the perceptual flux which holds our attention, but the richness and variety of the world of reason, of thought, and of values. We are brought to the sudden realization that there are many things in the world besides physical and mental things. Physical and mental things, events and processes, are real in this realistic pluralistic system, but so also are principles of reason, logical principles, internal and external relations, numbers, space, time, series, and such ideal entities as justice and beauty. These latter non-physical and non-mental entities we may, if we choose, call *subsistents*, if we wish to limit the term *existent thing* to such as are conditioned by space and time.

There is something exhilarating and emancipating about this new pluralistic view of the world to those who have been led to believe that there is nothing in the Universe but the mental and the physical — and possibly nothing but the physical. Such things as atoms and electrons, which quite possibly really exist, get put now in their proper subordinate place. Physical things, events, and qualities exist, but so do mental processes and mental events and qualities, and thus we are freed from the old tyranny of the monism of substance and the problem of interaction in its older form.

Not only does this new Pluralism free us from the tyranny of

[1] A clear statement of this new Pluralism may be found in the book of Edward Gleason Spaulding, *The New Rationalism*, sec. IV.

matter, which has kept us so long enthralled, but also from the tyranny of evolution, a word which at the opening of the twentieth century had taken such complete possession of our thought. Pluralism reduces the significance and extent of evolution. The latter is a useful term in biology. With caution, perhaps, it may be extended to the inorganic world, but there are large fields of reality to which it does not apply. It does not apply, for instance, to the standards of truth and value by which evolution itself is judged. It does not apply to God, nor to truth, nor to logical principles, nor to the eternal values.

Again, even within the sphere of evolution the pluralistic view of reality gains striking support from the doctrine of creative synthesis and theory of levels. At each new level, as the result of organization, new realities emerge not found in the elements which make up the lower level. Life and mind are the most striking illustrations of such new realities emerging from the synthesis of simpler elements.

Spaulding goes even further here and discovers a still more remarkable fact, namely, that of freedom at each successive stage of organization. "At each level or stratum of reality formed by the non-additive organization of parts into a whole, qualities or phenomena are free to act in accordance with their own nature and their own causal connections with other qualities of this level." "No higher level *violates* the laws of those lower levels; . . . but also no *lower* level *causally* determines any *higher* level." Freedom subsists, therefore, at each level as we ascend from the inorganic to the chemical, and then to the living and then to the mental and then to the ethical. Thus, biology is not a branch of physics, nor psychology of biology, nor ethics of psychology. Each is a free and independent science correlated with the lower levels and not violating their laws, but introducing new entities and new laws and thus exhibiting its own peculiar freedom. So the time has gone by when physics and biology can dominate psychology and ethics, and Naturalism with its bonds of determinism, which it hoped to fasten on the world, has been superseded; for at each higher level something new appears which is free to follow its own laws.

Even here this realistic Pluralism does not stop. It throws light on the now much-discussed problem of *values*. It is no longer sufficient to say with Spinoza that things are good because we desire them, but now with Plato and the ancients generally we may say that we desire things because they are good. Justice and beauty and goodness are models, which we are ever approaching, but never realizing. They are limits, "but the limit is not a member of the series of which it is a limit," so that we may probably say with Plato, strange as it sounds in these empirical days, that justice and beauty and goodness and truth are all themselves subsistent entities, "eternal" values, not conditioned by space and time.

Again the pluralistic world view allows us to think of the Universe as purposive and creative of values, and it allows us to give real objectivity to such concepts as color and beauty and justice and truth. We can once more think of beauty as resident in the work of art and not merely as existing in the mind of the beholder, and we can think of justice as a real end to be gained and not as something relative merely to the subject, and we can think of truth, not in the pragmatic sense of that which affords maximum satisfaction, but in the realistic sense of conformity with reality. In the direction of simplicity, therefore, there seems to be a distinct gain in this realistic pluralistic philosophy.

Pluralism gives us finally a view of God, not as a mere object of faith, not as the hypothetical creator of the world, not as a pragmatic "working scheme," but as the "totality of values, both existent and subsistent, and of those agencies and efficiencies with which these values are identical." "God is Value, the active, 'living' principle of the conservation of values and of their efficiency." [1]

Both the pluralistic and realistic character of this world view seem to be in harmony with many tendencies in present day philosophy. That strong desire which we have for unity and completeness is, to be sure, not satisfied in Pluralism; but there is compensation for this lack in its doctrine of freedom, of values, and of God.

[1] Spaulding, *idem*, p. 517.

Criticism

To most minds, however, this philosophy is in need of supplementing in two directions. First, a more satisfying conception of consciousness and of the mental life in general is desirable. Spaulding with certain other writers of the day speaks of consciousness as a dimension and a variable. But since a dimension is reduced to a linear series, and in the case of consciousness is about what we mean by a *process*, a more exact and significant description seems to be needed. The mere *serial organization* of such elements as are studied in neurology, physiology, physics, and chemistry, even though such organization results in a qualitatively distinct dimension of reality, which we call *awareness*, does not yield a satisfactory description of those forces in the world which we call mental or psychical.

The second thing which is lacking in this pluralistic system of philosophy is a more satisfactory determination of the source of the creative synthesis itself. We hear much of creative synthesis and organization, but the ground of them is not determined. This pluralistic Universe needs, after all, a *soul*, not a soul as a unitary principle, but a soul as a vitalizing agency. At any rate, some evolutionary urge in the existential world of time and space, some *élan vital*, some creative agency, some cosmic will is necessary, it would seem.

In connection with this chapter read:

Edward Gleason Spaulding, *The New Rationalism* (Henry Holt and Company), pp. 432–37 and pp. 486–95.

Further references:

William James, *A Pluralistic Universe.* (Longmans, Green and Company.) *The Will to Believe* (Longmans, Green and Company), Preface.

C. A. Richardson, *Spiritual Pluralism and Recent Philosophy.* (Cambridge University Press.)

Mary Whiton Calkins, *The Persistent Problems of Philosophy* (The Macmillan Company), Introduction, chap. III; also pp. 71 ff., pp. 411 ff.

G. H. Howison, *The Limits of Evolution* (The Macmillan Company), Appendices A, B, C, and D.

CHAPTER XVI

THE SEARCH FOR THE SOUL

Historical

One of the things which those who take up the study of philosophy hope to have speedily solved is the problem about the soul or the mind — and its destiny. It will probably be disappointing, therefore, to learn that this most vital of all questions is still far from solution. On the other hand, it will be encouraging to know that in the last twenty years remarkable progress has been made in unraveling the mysteries of this most intricate and yet most interesting of all the problems of philosophy. Although the search for the soul will really be our task, let us for the moment substitute the word *mind*, which in psychology has now generally taken the place of the richer word *soul*.

Can the mind understand itself?

But is it, after all, strange that the problem of the mind should be so baffling? Science proceeds from the simple to the complex. The stars, so remote from human interest, were the first objects of study in ancient Assyria and Egypt. How incompetent those early astronomers would have been to study the subtile processes of their own minds! Then after astronomy came mathematics and physics, and in modern times chemistry and biology; and finally the most difficult sciences of all, psychology and sociology. All the sciences are the creation of the human mind; but the mind itself can be known and understood last of all. *Can* the mind know and understand itself? That it should even conceive of such a thing, or attempt it, is a witness to its marvelous supremacy. It is worth something to live in a time when inquiries like these are in the focus of attention among scientists — and perhaps to have a share in their solution.

Initial perplexities

The attitude of the reader in approaching the problem of mind is probably something like this: I have studied psychology; everybody takes a psychology course now. I have learned a lot about physical and mental processes, neurones and synapses, reaction-arcs and conditioned reflexes, stimulus and response, impulse and instinct, sensations and memory images, feelings and emotions, conscious and unconscious states, intelligence tests and I.Q.'s, complexes and inhibitions, conduct and behavior; and I understand that some of these are described as physiological processes and some as mental processes; but it has never been made clear to me just what the difference is between a physical and a mental process, nor how they are related, nor how the mental processes are related to the mind, nor what the mind is.

Furthermore, outside of psychological writings, I hear a great deal about the *soul* — in poetry, in literature, and in religion. Having found that the word *psychology* is derived from two Greek words meaning *soul* and *science*, I supposed that this study would surely enlighten me; but I discover that some of the latest textbooks in psychology studiously avoid using the word *soul*, or even the word *mind*. Worst of all, in sermons and religious meetings I have heard so often about the human *spirit*, as if the spirit again were something different from the mind. How I should like to have this whole muddle cleared up! When I asked about these things, I was told that these questions were metaphysical and that I should go to philosophy. My very first irruption into philosophy did not, however, do much to remove my difficulties; for I learned that my beloved Professor James, whose psychology had been so helpful, when he began to write as a philosopher, was the author of an article entitled "Does Consciousness Exist?" I had been told that souls were no longer mentioned in psychology and that consciousness has taken their place, and yet the very existence of consciousness was here questioned; and I have learned that in some of the most recent textbooks in psychology the word *consciousness* is hardly used. And, anyway, the meaning of the word *consciousness* was never clear to me. Sometimes it seemed to be used as synonymous

with our whole mental life, while at other times it referred only to the present or passing aspect of it.

Later we shall distinguish between the words *mind* and *consciousness*, and we may find that the words *mind*, *soul*, and *spirit* have not quite the same meaning; but for the sake of simplicity we may take as a point of departure the fact of an inner life of experience, which we call our mental or perhaps our psychical life, and that when we use the substantive words, *mind*, *soul*, *consciousness*, *spirit*, *ego*, *self*, they are merely different names applied to this inner life. Of course, these words are not synonyms, for *mind* and *mental* suggest intellectual activities, while *soul* and *psychical* are apt to call up emotional and vital elements. And sometimes when we think of the mind as separable from the body, we use the word *spirit*, while the adjective *spiritual* suggests moral and religious values.

Plan of approach

How shall we approach this most difficult of all subjects? The best way, I think, will be to devote one chapter to a brief historical review of theories of the mind. Then in the next chapter we may see whether it is possible to gain some reasonable view of what the mind is, basing our study on recent attainments in the science of psychology and in the philosophy of mind. In a third chapter we may consider the relation of mind and body. Incidentally we must distinguish our inquiry about the mind, which we call the *philosophy of mind*, from psychology, which is the *science* of the mind. Psychologists do, indeed, usually have some philosophy of mind — that is, some theory of what the mind is; but they may avoid this inquiry if they choose, confining themselves to a mere description and classification of mental phenomena and the formulation of the laws of mental behavior — that is, to strict psychology.

Historical [1]

Primitive man thought of the soul as a kind of shadowy image

[1] A luminous account of the history of theories of the mind may be found in William McDougall's book, *Body and Mind*, chaps. I to IX.

or replica of the body, perhaps like a vapor, or breath, capable of leaving the body during sleep and surviving it after death. Greek philosophy and Greek literature are permeated with the idea of the soul, the Greek word, *psyche*, carrying a rich connotation of life, soul, and consciousness. The earliest Greek thinkers believed in a "divine and animate essence," immanent in nature, appearing in man as the soul, the source of life and intelligence. This view found expression in the doctrine of Heraclitus, who taught that the soul is a fiery vapor, identical with the rational and vital fire-soul of the Universe. Greek science, however, culminated in Democritus, who proclaimed the fact that all physical things are composed of material atoms in mechanical interaction, and who believed that the soul also consists of smooth round atoms permeating the body.

Plato

But it is to Plato that we must look for the source of our popular modern ideas about the soul. To Plato the soul is a distinct immaterial essence or being, imprisoned, so to speak, in the body, its nature having little in common with the earthly, its home and destiny being the world of eternal Ideas. The personality and individuality and immortality of the soul, all stand out clearly in Plato's teaching. Even its preëxistence is affirmed; the soul bringing with it a kind of reminiscence of its former exalted home, prior to its life in the body. It is, furthermore, the source of motion in the body, as well as the fountain of knowledge and aspiration. It is owing to its inner divine nature that the soul has intuitive knowledge of the world of Ideas and higher values.

It would be hard to exaggerate the influence of this pure and exalted immaterialism of Plato in the history of thought, particularly in the early doctrine of the Church. His sharp distinction between the body and the soul was the source of the dualistic theories which have come down to us through the centuries, and with them the tendency to exalt the soul and its heavenly mission above the body with its earthly character. This Platonic doctrine of the soul permeates our literature, finds expression in

much of our most inspiring poetry, and is embedded deeply in our ethics, our religion, and our daily life. The historical importance of this soul theory has lately led to successful attempts to trace it back of Plato to the Orphic Mysteries and the Pythagorean philosophy. Plato, to be sure, wavers in his account of the soul, ascribing an earthly origin to its lower parts and reserving its immortality to its pure, godlike, rational part. But posterity has seized upon the graphic picture of the unitary, individual, and immortal soul, which he presented in the beautiful dialogue, the *Phædo*.

Aristotle

Aristotle, no less than Plato, emphasized the reality and essential character of the soul; but he brings it into much closer relation to the body. It is the very "form" and reality and perfection of the body. It is the "primary actuality of a natural body endowed with life." It has the same relation to the body that vision has to the eye; or the impression in the wax to the wax itself. At the same time, he considers the soul to be a sort of vital principle, almost identical with life — the source of movement and growth as well as of thought and reason. Finally, influenced by Plato, he ascribes to the soul an active or creative reason, which is of the very nature of the divine and is immortal.

But the significant thing in Aristotle's psychology is his notion that the soul is the purpose and perfection of the body, that for which the body exists and in which it finds its realization. This keen observation of Aristotle that the soul is the entelechy — that is, the end or perfection or purpose of the body, as if it were something for which the body exists, something in which the body is *perfected* — has become the seed of a recent scientific movement of great interest in the attempt to establish a philosophy of mind.

The tendency toward the complete spiritualization of the soul and to a decided and uncompromising Dualism, already seen in Plato, culminated in the teaching of Saint Augustine and through him was handed on to the mediæval Church and to modern thought. Plotinus, the Neo-Platonist, had already taught that

the soul is an immaterial *substance*, sharply distinguished from the body and separable from it. Thus there emerged the doctrine of the existence of two worlds, a mundane material world and a divine spiritual world, the body belonging to the former and the soul to the latter.

Descartes

In the seventeenth century this dualistic conception was crystallized into a distinct philosophical system by Descartes, who is called the founder of modern philosophy. There are two substances in the world, thought and extension, or, as we should say, spirit and matter, appearing in human beings as mind and body. In the body mechanism reigns supreme; while the mind is conceived as a pure thinking spiritual *substance*. So vividly does this French thinker conceive of the soul as an identical, simple, substantial being, that he actually attempts to locate it at a special point in the brain. But just in proportion as he insists on the pure spiritual character of the soul and the rigid mechanical character of the body, so was his difficulty greater in accounting for their action each upon the other; and that mind and body do interact seems evident from our momentary experience. Thus the problem of the relation of mind and body, following from this strict Dualism, was bequeathed to Descartes' successors.

Hume

This self-confident animism, coming down from Plato through Descartes, received its first rude shock from Hume, who bluntly said that we have no experience with any such thing as a soul at all, and no evidence of its existence. Experience gives us nothing but a lot of impressions or perceptions, and ideas or memory images, and we have no way of showing or reason for believing that the soul is anything more than the collection of these impressions and ideas.

> There are some philosophers who imagine we are every moment intimately conscious of what we call our SELF; that we feel its existence and its continuance in existence; and are certain, beyond the evidence

of a demonstration, both of its perfect identity and simplicity. . . . For my part, when I enter most intimately into what I call *myself*, I always stumble on some particular perception or other, of heat or cold, light or shade, love or hatred, pain or pleasure. I never can catch *myself* at any time without a perception, and never can observe anything but the perception. When my perceptions are removed for any time, as by sound sleep, so long am I insensible of *myself*, and may truly be said not to exist. And were all my perceptions removed by death, and could I neither think, nor feel, nor see, nor love, nor hate after the dissolution of my body, I should be entirely annihilated, nor do I conceive what is farther requisite to make me a perfect nonentity. If any one, upon serious and unprejudiced reflection, thinks he has a different notion of *himself*, I must confess I can reason no longer with him. All I can allow him is, that he may be in the right as well as I, and that we are essentially different in this particular. He may, perhaps, perceive something simple and continued, which he calls *himself;* though I am certain there is no such principle in me.[1]

As has been pointed out by many critics of Hume, he uses in the above passage the pronouns *I*, *me*, and *mine*, very freely, implying a certain unity and concreteness of that which perceives and thinks, not very well characterized as a "bundle" of perceptions, or as a "theater" where impressions pass and repass in constant flux and movement.[2]

Kant

Kant, examining more carefully the conditions of experience, while denying that the mind is a substance in the older sense, affirms that there can be no experience without the activity of the mind as a unitary *subject* having the power of creative synthesis. In the end Kant's philosophy emphasizes the essential unitary spiritual character of the mind, of which Nature is hardly more than the phenomenal product. The ego is a pure thinking spirit.[3]

The nineteenth century

During the last century the foundations were laid in experi-

[1] Hume, *Treatise on Human Nature* (The Clarendon Press), book I, part IV, 6.

[2] Compare the criticism in Mary Whiton Calkins's *The Persistent Problems of Philosophy*, chap. VI.

[3] Compare Paulsen's *Kant*, p. 185.

mental science and in empirical psychology for a philosophy of mind more in keeping with our inductive scientific methods. Before speaking of these later fruits, however, it will be well to review the principal theories of mind held by philosophers during the nineteenth century. For the most part they are the views still held, and by their several advocates are thought to harmonize with inductive and experimental studies.

We may then distinguish these four classes of theories:

1. Materialistic theories
2. Dualistic or animistic theories
3. Idealistic theories
4. Double-aspect theories

Materialistic theories of the mind

Materialism in its older form affirmed that there is no other reality than matter, or mass particles in motion; that mind is in no way a distinct or different form of being, but is itself either a form or function of matter. Man is an adaptive mechanism, wholly explicable in terms of the laws of physics and chemistry. Consciousness arises in the transformation of energy in the highly complex mechanism of the nervous system, but is not itself a distinct form of energy nor a distinct form of being of any kind.

Democritus, the Greek materialist, considered the soul to be composed of atoms, like the body, only of a smoother, rounder kind. Some of the German materialists of the eighteenth century spoke of thought as being a secretion of the brain. Haeckel in his *Riddle of the Universe* believed that the mind is a function of the brain. Among writers of this school, psychology, not dealing with any forms of reality beyond those considered in physics and chemistry, becomes a branch of physiology or biology. In the Naturalism of the present day it is believed that the methods and presuppositions of the physical sciences are also those of psychology and that the latter requires no others.

Epiphenomenalism is a term sometimes given to one type of Materialism. This word was first used by Huxley; it indicates that mind is not a factor in natural processes; mind is a name that we give to certain phenomena that merely *accompany* types

of processes and changes in the nervous system. Mental states are like a kind of *aura*, hovering about cerebral processes without themselves having any function; they effect no changes and have themselves no significance in the world movement. The laws of physics, chemistry, and physiology cover the whole field, and if fully known would enable us to understand the world of man and society.

Dualistic or animistic theories

Here belongs the "soul" theory, coming down from Plato and Descartes and familiar to every one. More specifically under this head we may mention, first, the everyday metaphysical Dualism taught by Descartes, accepted by Locke and popularized in America through the influence of the Scottish school. Mind and body are quite distinct, and represent the two universal realities.

Somewhat similar to this, if more cautious, is the psychological Dualism, brilliantly defended by William McDougall.[1] With much courage McDougall has revived the use of the word *Animism*[2] as a name for his philosophy of mind, which is nothing else than the usual soul theory. The mind — or, if we choose to use the other terms, *soul*, *ego*, *self* — is a unitary and distinct psychic being, in nowise to be identified or confused with the body with which it interacts. It possesses, or is, the sum of certain enduring capacities for psychical activity, such as having sensations, reacting to them, and guiding the stream of nervous energy in such a way as to neutralize the tendency of physical energy to dissipation and degradation. This emphatic dualism of mind and body does not, however, in McDougall's opinion involve necessarily any Cartesian Dualism of the world. It is content to affirm the distinction of mind and body in the human personality, and it is not, as it seems to me, this unequivocal distinction

[1] See his book *Body and Mind, A History and a Defence of Animism.* Fifth edition. See above, Chapter XII on "Dualism."

[2] The word *animism* has more commonly been used in anthropology to signify the tendency among primitive people to endow everything with mind, even things we regard as inanimate, such as sticks and stones. McDougall uses the term in its larger sense merely to indicate belief in mind (*anima*), as a reality.

which contemporary schools are calling in question, but rather the more equivocal theory of interaction.

Among other representatives of Animism, or the soul theory, may be mentioned the German philosophers, Lotze, Stumpf, Külpe; in America, George T. Ladd, and James in some of his moods; while in France, Bergson has defended a theory of mind somewhat closely related to Animism.

Idealistic theories

In the third class we may include not only the strictly idealistic systems, but also the various panpsychic, personalistic, and mind-stuff theories. In this class we shall find the great majority of modern systems of thought; for Idealism has prevailed in all periods. And yet, perhaps, we shall get from none of them a perfectly clear notion of what the mind is; it is too all-inclusive to be clearly defined. Strictly they are theories of the world rather than of mind, interpreting the Universe in terms of consciousness, or will, or experience. So we hear much of experience, self, will, and ideas.

In the absolute or objective idealistic systems the whole Universe is rooted and grounded in mind or spirit; call it Absolute Ego, as did Fichte, or Absolute Idea, with Hegel, or Absolute Will, with Schopenhauer, or Absolute Experience, with Bradley, or Absolute Self, with Royce. The soul of man is thus intimate with, or participates in, or represents, the very essence of reality. Mind is not something accompanying matter, or something generated in an evolutionary process, but something primordial and original; it is the very stuff of the Universe.

Still other forms of Idealism consider mind to be the essence of reality. In Leibniz's philosophy the units of things which we call *atoms* are called *Monads*.[1] They are psychical, not material; they are little perceptions, but sometimes dim and confused. In the human soul we have a Monad which has developed to the stage of clear and conscious perception or representation.

Many of the modern panpsychic or mind-stuff theories go back to Leibniz. W. K. Clifford proposed the view that the whole

[1] See above, p. 243.

Universe is made of mind-stuff, an ultimate cosmic reality, and that our human consciousness is built up from elementary feelings, and these from mind-stuff.[1] James in one of his later writings [2] thought it might be necessary to assume the presence in the Universe of a kind of reservoir of soul-stuff, "a continuum of cosmic consciousness." James Ward in England, C. A. Strong in America, and Friedrich Paulsen in Germany have upheld various forms of Panpsychism, in which the very ground of the world is mind or feeling or consciousness, the body and the brain being appearances or phenomena of this essential psychical reality.

Double-aspect theories

According to this fourth view, mind and body are simply two aspects of the same underlying reality, itself possibly unknown. They are not different things at all, but identical in essence. They are the same realities seen from different sides; two faces, as it were, of the same coin. As stated in its original form by Spinoza, the one substance, which is called God, has two attributes, thought and extension. In its modern form, as stated, for instance, by Warren, "conscious and neural phenomena constitute *one single series* of events," their different appearance being due to different ways of observing them.[3]

Fechner's theory, mentioned in a previous chapter, was quite similar. But in Fechner it takes rather the form of ascribing to all matter a kind of elementary consciousness. The whole world is ensouled. Everything has a soul — minute particles of matter, organic bodies, the planets, the whole Universe. This has been a favorite view with many modern thinkers. Even Haeckel said that the material atoms are not dead and inert, but are endowed with feeling and will.

Newer views

We have thus passed in briefest review the four principal classes of theories about the mind held during the nineteenth

[1] *Lectures and Essays*, vol. II. [2] *American Magazine*, 1909, p. 588.
[3] Howard C. Warren, *Human Psychology*, p. 415. Titchener holds a similar view.

century. In one or another form they are still generally held. But now in recent years quite new views are appearing. The Freudians, the Pragmatists, the Behaviorists, the Neo-Realists, and the Energists have taken up the problem with a freshness and enthusiasm that promise real contributions to the philosophy of mind, especially since these various movements have much in common. Before considering these new views on the problem of mind, we should notice certain general tendencies already apparent in the nineteenth century. Even then the foundations were laid in experimental and empirical psychology for a philosophy of mind which should be more in keeping with our inductive scientific methods. The critical work done by Hume could never be forgotten, in spite of the rather convincing answer of Immanuel Kant. It became, therefore, more and more the custom to speak of mental states rather than of the mind and its "faculties." Psychologists devoted themselves to the study of sensation, perception, memory, feeling, volition. What is given in experience is not a mind or soul, but a stream of thought. The use of the word *soul* was looked upon with suspicion; it disappeared finally from the language of psychologists. Even the word *mind* was distrusted, and when used often signified no more than the sum of our mental states. Psychology was defined sometimes as the science of mental states.

Still, however, the mind was often looked upon as a sort of receptacle in which all these mental states were held, or as a sort of stage upon which they appeared and disappeared. This notion of the mind was hardly more satisfactory than the old psychology of *ideas*, encouraged by Locke, based on the assumption that there are a lot of entities called *ideas* which exist *in* the mind and may pass *out* of the mind and be again recalled as memories.

Gradually this structural psychology yielded to a functional view; mental activities took the place of mental states. Mental activities could be subjected to experimental investigation — actually studied in the laboratory. One thing, however, all these activities seemed to have in common; they were conscious. Thus, the word *consciousness* came into general use to take the place of the word *soul* and *mind*, which were under sus-

picion because of their metaphysical associations; and psychology was sometimes defined as the science of consciousness. I may not be a soul, or a mind, or even a body, but at any rate I am conscious; and *consciousness* seemed to be a safe term, which should take the place of the discarded *soul.* But really it was a very unfortunate term, and its extensive use has introduced endless confusion into our modern philosophy of mind. Finally, James himself called it in question and raised the inquiry whether consciousness exists at all. In fact, he said that it does not exist as a real thing, being but the faint rumor of the disappearing soul.

The influence of the rising Freudian psychology, which makes so much of unconscious mental activity, tended also to discourage the use of the word *consciousness* as synonymous with *mind.* So also did the new science of Behaviorism, which proceeded undismayed to construct the whole science of psychology without any reference to consciousness at all. Whether either the Freudians or the Behaviorists are right in their attitude toward consciousness, we may learn later; here it is only necessary to take notice of the passing of that stage in the history of the philosophy of mind in which mind was identified with consciousness. Very often consciousness was thought of as a kind of *stuff,* much as mind and soul had formerly been conceived. McDougall speaks of the havoc wrought in psychology by the word *consciousness,* and says that it is a thoroughly bad word, and that it has been a great misfortune for psychology that the word has come into general use.[1] In the next chapter we shall try to find out what the word *consciousness* really means.

Objective methods

Meanwhile actual reconstructive work was being done by the new schools mentioned above. What is common to all these new movements is that they begin by studying man as a member of the biological series, who acts or behaves in a certain way, and who has certain kinds of experience; and the question is to what kind of action or behavior we may give the name *mental;* and further what presuppositions are necessary to account for that par-

[1] *Outline of Psychology,* p. 16.

ticular kind of behavior which we call *mental.* Consequently the study of mind has become objective. The old method of introspection, while not wholly discarded, is held in abeyance, if not under suspicion. The method of general observation has largely taken its place; not because this method is certainly adequate in the study of mind, but because it is the method successfully pursued by the other sciences, and because, at any rate, *so far as it goes,* its results can be trusted. This objective method taken in connection with the verified results of all related sciences, such as biology, physiology, genetics, abnormal psychology, and anthropology, promises decided contributions to the philosophy of mind.

This new psychology begins with a study, not of minds, souls, consciousness, ideas, or sensations, but of mental processes in general. What kind of processes shall we call *mental?* We observe *mechanical processes* in the interaction of the parts of a machine. We observe *chemical processes* in atomic interchanges in gases, liquids, and solids. When we come to the simplest organism, we find other processes, which have to do with maintaining the integrity of the organism itself; for instance, growth and reproduction. These we call *vital processes.* But now we may distinguish processes of still another kind, when an organism begins to respond as a unit to an outer situation in such a way as to maintain its integrity. *Behavior* is a word which we apply to activities of this kind; it signifies the manner in which an organism functions with reference to its environment. We may then give the name *mental processes* to all those activities of an individual organism in which it adapts itself to a changing environment in such a way as to conserve or promote its well-being, its interests. In a simple reflex action there is stimulus and response. The response is purposive, conducive to the welfare of the organism; but it is relatively determined and invariable; there is no *specific* response, no selection or choice or control. It is not mental. Next come instincts, where reflex actions are further integrated, resulting in inherited tendencies to carry out a given set of responses under given circumstances. Such actions, only slightly adaptive, we hesitate to call mental, re-

serving the latter term for those specific responses by which on the basis of previous experience a new situation has been dealt with in such a way as to conserve or advance the interests of the organism. Responses like these are called *intelligent* or *mental.*

Now, something like this is the groundwork of the new philosophy of mind. We notice that it rests upon simple, direct observation of the behavior of individuals, and is fortified by a more or less complete knowledge not only of the brain and the neural mechanism, but of the whole body. Psychology, thus, is not the science of the soul or mind or consciousness, but the study of behavior, involving stimulus and response. In the case of man these reflexes become very highly organized and integrated and conditioned by previous reactions and accompanied by various checks and inhibitions; so we arrive at that kind of activity, behavior, or conduct, which we call *reflective, intelligent, mental.* Even what we call *thought* may be considered as a "motor setting," or "latent course of action."[1]

Behaviorism

The method we have just described is the general method of approach of the science of Behaviorism, which studies in a wholly objective way the conduct or behavior of living beings, and considers human psychology to have just this behavior of men as its subject-matter.[2]

As one method of advancing the science of psychology free from doubtful assumptions, Behaviorism must command our highest respect; but it can make no lawful claim to furnishing a philosophy of mind. If what we desire is a philosophy of mind, consciousness *cannot* be ignored, as the Behaviorist elects to do. The word *consciousness* is in daily use and means something; and it behooves us to find out what it means. Furthermore, since so much is made of organization and integration of reflexes, the

[1] See Edwin B. Holt, *The Freudian Wish and Its Place in Ethics*, p. 98. In the first two chapters of this little book the reader will find the clearest account of this way of regarding the mind.

[2] The behavioristic standpoint may best be understood by reading John B. Watson's *Psychology from the Standpoint of a Behaviorist*, or Max F. Meyer's *Psychology of the Other-One.*

source and secret of this organization must be studied. Behaviorism, of course, ignores all such questions. Still further, since organisms in specific response act in such a way as to conserve their well-being, or to bring themselves into a satisfied relation to the environment, psychology should inquire what these interests and satisfactions are; at any rate, they cannot be omitted in the philosophy of mind.

The movement known as Neo-Realism differs little in its psychological attitude from Behaviorism; only the Neo-Realists are philosophers rather than psychologists and are primarily interested in the problem of knowledge. Incidentally, they have worked out a philosophy of mind more complete than that attempted by the Behaviorists. The general approach to the study of mind which I have described as characteristic of the new schools is especially the attitude of the Neo-Realists; that is, the approach to the study of adaptive behavior through the objective study of organisms. Reflexes are progressively organized into more and more complex processes producing synthetic novelties, till finally adaptive behavior, or specific response, accompanied by *awareness* signals the birth of "mind." [1]

This philosophy of mind takes a slightly different form in an instructive chapter by Ralph Barton Perry in his *Present Philosophical Tendencies*. Perry distinguishes three parts of mind. First, the biological interests; second, a nervous system acting as instrument of the biological processes; third, those parts of the environment to which the nervous system specifically responds — the so-called "mental contents." [2]

This seems confusing at first, but becomes clearer when we understand that it is nothing but Behaviorism (with a saving emphasis, however, upon the biological interests), considering the mind quite materialistically as the brain in its selective and controlling aspects. But Perry and Holt, following James, conceived the brilliant idea of regarding as actual parts of the mind those portions of the environment to which the organism specifically responds, the *mental contents*, as they are called. Then

[1] Compare Edwin B. Holt, *op. cit.*, pp. 51 ff.
[2] Chap. XII, "A Realistic Theory of Mind."

that other part of the environment to which there is no specific response by the organism may be called *physical.* So that it depends upon the context into which otherwise neutral entities get whether we shall regard them as physical or mental, the real world being neutral. Thus the doctrine of "Neutral Monism" appears on the scene. What would have been considered a decided Materialism at the time when James wrote is thus converted into an innocent Neutral Monism. But I would advise the confused reader to neglect this third division of the mind which the Neo-Realists offer and cling to the other two, namely, the biological interests and adaptive behavior. Whether this really does lead to any kind of Materialism we may consider later.

The most serious difficulty with the neo-realistic doctrine of mind is its failure to give us a clear notion of what consciousness is. Although Perry admits that "mind as observed introspectively differs characteristically from mind as observed in nature and society," nevertheless, one gets the impression that neither in Behaviorism nor in Neo-Realism does the subjective side of mentality get its proper recognition. Howard C. Warren, in his book entitled *Human Psychology*, outlines a philosophy of mind which seems to correct this deficiency, while giving full recognition to the objective method of study. Psychology, he says, is a science concerned, not *merely* with behavior — that is, with those complex processes by means of which an organism adjusts itself to the environment — but also with the *subjective* aspect of all these processes. They are not only adaptive processes as seen by another; they are also *conscious phenomena*, as seen by ourselves. By means of *self-observation* we get a new way of studying these adaptive processes. In addition to *mentality* there is also *consciousness.* Consciousness is the way all these mental processes appear to ourselves.

At first sight this seems to clear up the whole matter and give us a clear philosophy of mind. It uses the modern approach by studying in an objective manner that kind of activity in organic beings which we call *behavior;* but it also admits that all these adaptive — that is, mental — processes have a subjective or

conscious aspect, a tremendously interesting and significant part of the life of man, thus supplementing the deficiencies of Behaviorism.

But still the question arises, What *is* this conscious subjective life? Is it anything that can find a place in the field of science? Is it a kind of by-product of the brain, an epiphenomenon? Or are we to fall back into some ancient Dualism after all? It was just to escape all such haziness that Behaviorism and Neo-Realism took their stand upon objective behavior.

To these questions Warren says that the experiences which we observe in ourselves *might* be considered as a *new set of occurrences.* That would lead to a theory of psycho-physical parallelism with all its mysteries; or they might be considered as *another way of looking at the same set of facts.* This would lead to the double-aspect theory, which Warren adopts. Neural events, according to this view, are *observable* either as behavior in others or as our own experiences in ourselves. A merely objective study of mentality in others would furnish a very important and very true science of psychology; but it would, after all, be a partial view, for our inner life of conscious experience presents another side of the reality, supplementing that of outward behavior.[1]

The philosophy of mind thus clearly presented by Warren seems a distinct advance upon Behaviorism. Surely, the reader will say, there is something more than behavior, something more than mentality, if we are to call adaptive behavior mental. There is certainly an inner conscious life of experience — my own life of personal wishes, dreams, memories, volitions, and perceptions. This is true enough, but just what it means to say that neural events and brain events can be "viewed" in two ways is not so clear. It still remains to ask whether a better way of explaining consciousness than this double-aspect theory may be advanced.

Pragmatism

Another new and vital movement in the study of mind is Pragmatism. As a system of philosophy we shall consider this in another chapter; but what of the Pragmatist's philosophy of

[1] *Op. cit.*, pp. 9, 10, and 415.

mind? The pragmatic approach to the mind problem is even more biological and evolutionary than the other new movements. We start with an organism, an animal or a man that has a practical problem to solve, perhaps to get food, perhaps to escape an enemy. Hence arises a situation, a problem to be dealt with; the environment is to be moulded to the needs of the subject. This involves experimentation; and what we have to do with, therefore, is the *experience* of the subject in this experimental moulding of the environment. Now, there is a certain stage in this experience, when it becomes reflective and intelligent, that we may describe as mental or conscious.

Pragmatists do not care to speak much of the mind, still less of the soul, and not so very much of consciousness. Consequently the pragmatic theory of mind is somewhat hard to formulate.[1] Perhaps we may put it in the following way. In the development of organisms there is a stage prior to that of reflection; it is characterized by mere liking or disliking, striving, endeavor, and is determined by definitely organized systems of neural discharge. In the next stage incompatible factors arise in some definite situation; conflicting stimuli indicate conflicting ways of response; there is trouble, tension, a perplexing situation. Hence arises the necessity for readjustment. The new situation has to be integrated; the response has to be adapted to the new situation. Experimentation follows, and selection; conduct is to be controlled by its consequences; future consequences become transformed into a stimulus for behavior. Now, such adaptive behavior is called *reflective, conscious, mental.* The mind, therefore, is *instrumental,* serving biological ends; and Pragmatism of this kind is sometimes called Instrumentalism.

In its initial emphasis upon adaptive behavior, therefore, we see that the pragmatic approach to the mind problem differs but little from the other modern movements; but the special emphasis is upon the moulding and remodeling of the environment

[1] The clearest account will be found in the volume entitled *Creative Intelligence,* particularly in the chapter by John Dewey entitled "The Need for a Recovery of Philosophy," and a chapter by Boyd H. Bode entitled "Consciousness and Psychology." Compare also Dewey's book *Essays in Experimental Logic,* pp. 8 ff.

through the creative activity of the individual. *Intelligence* is the name which the Pragmatists prefer for activity of this kind and they speak of "creative intelligence," and of "the courageously inventive individual as bearer of a creatively employed mind," and of the future as being determined by intelligence.

What we get in Pragmatism, therefore, is a stirring picture of free dynamic personalities, striving, struggling, achieving. But since the Pragmatists make much of evolution and the biological approach, one is curious to know just how intelligence stands to the rest of the evolutionary process; whether we have a mechanistic or non-mechanistic philosophy of mind. The implications of Pragmatism are all quite non-mechanistic. The insistence upon experience, upon free dynamic personalities, upon creative intelligence, do not lead in a mechanistic direction.

On the other hand, there is expressly repudiated any belief in a distinctive psychic element in experience; that is, anything outside the sphere of physical and biological factors. Pragmatists have no use for minds or souls or consciousness in the old substantive sense. So the question arises, just what *is* this creative intelligence that is creative of values? In Pragmatism it seems just to appear on the scene, like a little cloud gathering in the clear sky, and we wonder what it is made of; we would like to see its credentials.

The same is true of the non-reflectional elements of experience, the esteem, aversion, suffering, endeavor, and revolt, of which Dewey speaks, as preceding reflection. Whence come they and what are they? Probably what the Pragmatists mean is that these non-reflectional elements of experience are what we commonly call the biological interests — impulse, craving, will-to-live, desire. Wherever there is life, these deep impulses are present; and intelligence is just a tool or instrument of these interests. But whence, then, come the freedom and creative power of intelligence? From the standpoint of biological evolution where do freedom and creative activity come in? [1]

[1] The difficulties here referred to have been pointed out in a clear manner by Arthur O. Lovejoy in three articles in *Jour. of Phil., Psych. and Sci. Meth.*, vol. 17 (1920), pp. 589, 622, and vol. 19 (1921), p. 5.

However the Pragmatists may solve this difficulty, their wholesome insistence on the creative power, efficacy, and efficiency of intelligence is worthy of careful note.

> That man is a real agent — and that the distinctive quality of his agency consists in the part played therein by the imaginative recovery and analysis of a physically non-existent past and the imaginative prevision of a physically non-existent future — these are the first articles of any consistently pragmatic creed. Such a creed is simply a return to sanity; for these two theses are the common and constant presuppositions of the entire business of life. Never, surely, did a sillier or more self-stultifying idea enter the human mind, than the idea that thinking as such — that is to say, remembering, planning, reasoning, forecasting — is a vast irrelevancy, having no part in the causation of man's behavior or in the shaping of his fortunes — a mysterious redundancy in a cosmos which would follow precisely the same course without it. Nobody at a moment of reflective action, it may be suspected, ever believed this to be true.[1]

The Freudians

What is the mind? With our question still unanswered, let us go to the Freudians. None of the new ways of looking at the mind is more vital and revolutionary than theirs. This school recognizes what should have been seen long ago, that philosophers and psychologists, being men in whom the rational and conscious part of the mind is highly developed, have a tendency to overemphasize these elements. Consequently it is a very one-sided philosophy of mind that we find in the older traditions and the regular textbooks. Really the irrational and unconscious mental elements are the more important.

So the Freudians have discovered that the mind is not a collection of sensations, perceptions, ideas, and rational processes, or a certain spiritual substance *having* ideas, sensations, and the like; but rather a deep and troubled sea, whose secrets are found, not in its placid surface of consciousness and reason, but in its profound unconscious and irrational depths. They have laid hold of two great truths. One is that mind is a much wider term

[1] Arthur O. Lovejoy, *loc. cit.*, p. 632. This doctrine of the Pragmatists Lovejoy endorses while pointing out its inconsistency with their metaphysics.

than consciousness; the other is that the most significant things in our mental life are impulses. Night-dreams and day-dreams made in the old psychology quite an insignificant chapter; here they are of prime importance, for they reveal the deep springs of our mental life — those profound psychical energies which are known as impulses, cravings, desires, wishes, appetites, and interests; such, for instance, as sex, hunger, self-preservation, gregariousness. In our conventional, civilized life these vital strivings are necessarily repressed. Hence come unhappy "complexes," systems of painful experiences, lying below the threshold of consciousness, upwelling into our conscious life under the influence of emotion.[1]

Now, all this is very interesting, very important, and probably true. It is a new psychology, but is it a philosophy of mind? We are introduced to a lot of new terms — the Unconscious, Psychical Energy,[2] the Censor, Complexes, and others, and we are curious to know what they are and how they are going to be built up into a real philosophy of mind. What is this Psychical Energy, and how is it related to other well-authenticated forms of energy? We shall turn the pages of the Freudians and Psychoanalysts in vain for any clear answer to this question. The Unconscious, Psychical Energy, the Censor, are concepts, mental constructs, which serve the purpose of all conceptual construction, as a framework on which to hang our actual *facts*. *If* such things exist — say a reservoir of unconscious impressions — *then* the facts would be as they are. They have the same logical credentials as the soul had in former times. If the soul exists and has "faculties," then facts should follow as they do.

Tansley in his exposition of the Freudian psychology traces the evolution of mind, quite after the manner of the other new schools, through simple reflex action and instinctive behavior to the final stage of reflective thought and consciously pur-

[1] An intelligible account of the Freudian philosophy of mind may be found in Tansley's *The New Psychology*. Compare also Brill's *Fundamental Conceptions of Psychoanalysis*, and Freud's *Psychopathology of Everyday Life*, and his *General Introduction to Psychoanalysis*.

[2] Jung, *Psychology of the Unconscious*, pp. 144 ff. Tansley, *op. cit.*, pp. 59 ff.

posive action. But when mind does arrive, it is something *sui generis*, something wholly distinct from the body and brain. "In short," he says, "we cannot dispense with the dualism involved in regarding mind as an entity with its own phenomena and laws." [1]

The Energists

Reference should be made to a final theory of mind, which at first thought is quite captivating. It is the theory that mind is a peculiar form of energy to be added to our list of physical energies, such as we assume to exist in nature. I have already referred to Macfarlane's theory that we must assume in addition to molic, thermic, electric, and other physical energies also a vital energy called *biotic*, and certain psychic energies which he calls *cognitic* and *cogitic*. And we have seen that some of the Freudians speak of psychic energy. Ostwald and his school in Germany have for a long time preached the doctrine that mind is a form of energy.

That there are profound energies involved in the development and behavior of animals and men, no one doubts. In a preceding chapter, when we were studying the nature and origin of life, we have seen how fundamental these creative energies are, if we are to understand either life itself or its evolution; but Energism in the above forms fails to take account of the complexity of the activities and capacities which are included under the term *mental*. It is too easy a solution of the mind problem.[2]

[1] A. G. Tansley, *The New Psychology*, pp. 20, 21.

[2] These theories of Energism should not be confused with the thoughtful hypothesis developed by W. P. Montague, that consciousness is a form of potential physical energy; that is, a potential physical energy of brain currents. Compare his article in *Jour. of Phil., Psych., and Sci. Meth.*, vol. IV, p. 374, entitled "Contemporary Realism and the Problem of Perception," and his chapter in *The New Realism* entitled "The Realistic Theory of Truth and Error." Also, *Monist*, XVIII, pp. 21 ff. Also, *Essays Philosophical and Psychological in Honor of William James*, pp. 105 ff.

But if I understand Montague, his theory is, after all, a kind of double-aspect theory. Mind is not explained; it is only stated that it is the inner side of what we know objectively as potential energy. He says that "what we know directly from within as the psychical or subjective side of experience may be the same as what we know indirectly from without as the potential energy of the nerve currents in the brain." (*Monist*, vol. XVIII, p. 27.)

Summary.

These, then, are some of the more important theories of mind familiar in the history of philosophy. Whether out of them all any clear philosophy of mind will emerge we may inquire in the next chapter. Surely they are confusing at first; but the thoughtful reader will see that they do in some measure converge toward certain definite results. There are some things in this history of theories of the mind which seem like saving truths to be followed up and carefully weighed. One of these is the Freudian emphasis upon vital impulses, those deep biological interests which seem like psychical energies driving us on apparently with some unconscious purpose. Another is the view common to all the new movements, that the key to what we call mental activity is, objectively considered, that kind of behavior which we call *adaptive*. Another, pointed out by Warren, is the belief that adaptive behavior has a subjective side which we may call *consciousness* or *experience*. Still another, emphasized by Plato, is the peculiar unitary personal character of the Self. Finally, there is that strange conception of Aristotle's that the mind is the perfection and fruition of the body. Would it be possible to forge all these elements into a consistent philosophy of mind?

In connection with this chapter read:

William McDougall, *Body and Mind* (Methuen and Company), chaps. I to IX.

Further references:

L. T. Hobhouse, *Mind in Evolution.* (The Macmillan Company.)

Hume, "An Enquiry Concerning Human Understanding," as found in Rand's *Modern Philosophers,* pp. 307–46.

Mary Whiton Calkins, *The Persistent Problems of Philosophy* (The Macmillan Company), chaps. IV, V, VI. Also her *Introduction to Psychology.*

Henri Bergson, *Matter and Memory.* (The Macmillan Company). And his *Creative Evolution.* (Henry Holt and Company.)

Friedrich Paulsen, *Introduction to Philosophy.* Translated by Frank Thilly (Henry Holt and Company), pp. 74–144.

C. A. Strong, *Why the Mind has a Body.* (The Macmillan Company.)

And his later work, *The Origin of Consciousness.* (The Macmillan Company.)

Howard C. Warren, *Human Psychology.* (Houghton Mifflin Company.)

John B. Watson, *Psychology from the Standpoint of a Behaviorist.* (J. B. Lippincott Company.)

James Ward, "Psychology," in *Encyc. Brit.*, 9th ed., and his *Psychological Principles.* (Cambridge University Press.)

Edwin B. Holt, *The Freudian Wish and Its Place in Ethics* (Henry Holt and Company), chaps. I, II. And his *The Concept of Consciousness.* (The Macmillan Company.)

CHAPTER XVII

THE SEARCH FOR THE SOUL

Reconstructive

One of the causes of the confusion about the soul which is seen in the history of philosophy is found in the exceedingly complex character of the human organism and the many kinds of activities embraced under the term *mental* or *psychical*. We may as well recognize at once that the mind is a very complex thing, or group of things, or rather a group of tendencies, processes, and activities. We must distinguish three aspects of the mind and examine them separately.

1. The Conative Tendencies

Any true philosophy of mind must begin with the springs of conduct and behavior. In the recent literature of the subject it has been customary to speak of these as primary biological interests. Usually they have been treated descriptively in separate chapters under the head of *desires*, *instincts*, *will*, or *conative tendencies*, as if they were normal features of our conscious life to be described in passing, along with other mental processes.

But we must understand that they are in a wholly different category; they are tendencies and dispositions rather than activities and processes. Just in proportion as psychology now emphasizes activity, behavior, function, *doing*, just so much more is it necessary to understand the springs or grounds of this doing. Deep down in the roots of our being there is a force at work which impels, and what we call *behavior* is the result of the operation of this force. We may call it conation, striving, wish, will, libido, appetite, hunger, sex, desire, craving, instinct, psychic energy, or just a kind of *drive*. In the last chapter, when we were studying the new movements in psychology, we noticed the prominence given to these profound conative elements, the non-reflectional elements of experience, as the Pragmatists call them. The Freudian psychology owes its vigor largely

to the emphasis which it gives to these primary constitutive elements of the mind, the *wishes*. Plato and Aristotle were evidently impressed by the basal character of these elements, for they spoke of an appetitive *soul* and a vegetative *soul*. McDougall has shown at length that the instincts are the prime movers of all human activity and that human and animal behavior is a manifestation of this purposive or hormic energy.[1]

The conative tendencies as interests

It is doubtful whether the term *energy*, even when qualified as purposeful or "hormic," is the best name for these primary mental elements. What we have is something more than a *drive*, something more than a *drift* or a *tendency* or a *restlessness*, even something more than what one writer has called the "energy-influences seething and bubbling in the organism";[2] it is rather an *interest*. Wherever there are organisms there are interests. Life is purposive, looking toward self-maintenance and self-perpetuation. This, as we have seen, does not necessarily involve any general teleology, or any conscious purposiveness in the world. It is only that life itself is teleological.[3] It *tends* to self-maintenance in growth and assimilation, and to self-perpetuation in simple cell division. It exhibits what Patten calls a kind of egoism and altruism.[4] This impulse of self-preservation and self-perpetuation is native to every organism; perhaps there is no better name for it than the *will-to-live*.

> Every clod feels a stir of might,
> An instinct within it that reaches and towers;
> And grasping blindly above it for light,
> Climbs to a soul in grass and flowers.

"The Greek naturalists saw (what it needs only sanity to see) that the infinite substance of things was instinct with a perpetual motion and rhythmic order which were its life, and that the spirit of man was a spark from that universal fire." [5]

[1] See his *Outlines of Psychology*, pp. 72, 213, *et passim*, and his *Introduction to Social Psychology*.
[2] Louis Berman, in his *Glands Regulating Personality*, p. 196.
[3] See above, pp. 153–156. [4] See above, p. 138.
[5] Santayana, *Soliloquies in England and Later Soliloquies*, p. 212.

Thus far we seem to be on solid empirical ground in our search for the soul. We have found at the roots of our mental life deep springs of action in the form of native impulses, instincts, or propensities. They *well up* in our conscious life, suffused with emotional tone, not merely as desires and appetites, but also as vague longings, aspirations, hopes, and ambitions; so that they become the springs of progress as well as the fountain of our love-life, our social life, our economic life. They are the power behind the throne in it all.

Before we go on to consider other elements of the mind, such as behavior, intelligence, memory, feeling, and perception, or to inquire about consciousness or personality, it may be well to delay a little longer upon these basal elements, to see what their connection is forward and backward; that is, forward to their products in the complex self, and backward to their metaphysical sources. This, to be sure, would not be necessary, if our goal were simply to find out what the mind is; for it would be sufficient to point out the actual presence of these deep impulsive strivings in that total thing we call the mind. Then we could go on to discuss the other elements, such as adaptive behavior, intelligence, and personality — and we should perhaps be able to say what the mind *is*. But a philosophy of mind must try to do more than this; it must try if possible to find the significance of impulse and striving in the evolutionary process, in animal life, in the whole world. It must even inquire whether all the later mental processes may not be *instruments* of these vital strivings.

The conative tendencies as cosmic agencies

In previous chapters when we were studying the origin and nature of life, the philosophy of evolution, and the purposive world, we discovered the presence in nature of some sort of agency which makes evolution *creative*. To this agency many names have been given by various philosophers, such as the *élan vital, the evolutionary urge, the life-force, the organizing power, a common creative agency, an internal perfecting principle*. Sometimes these terms were applied only to the world of organic

beings — sometimes, as in the case of Henderson,[1] the *drift* or *tendency* was carried farther back to inorganic matter. Here, of course, we are on speculative ground and no such *cosmic principles* are necessary to establish a philosophy of mind; but certainly it is very tempting to think of the creative forces of the mind as a part of, or related to, the creative forces of the world, and perhaps the driving forces, not only in evolutionary change, but in social and moral progress.

Bergson has developed this thought in his own way. He calls it *mind-energy*, or vital impetus. In one striking passage he says, "It is to social life that evolution leads, as though the need of it was felt from the beginning, or rather as though there were some original and essential *aspiration of life*, which could find full satisfaction only in society." [2]

I wonder whether this driving force of mind-energy is looking forward not only to society and history, but to intellect, reason, personality, individuality, and freedom. We know that intelligence is creative; we see its creative power every day in art and literature, in science and invention, in commercial enterprise and business organization. Does it owe its creative power to the purposive energy which lies at the roots of all mental life? When we come to the study of intelligence and of adaptive behavior, we shall see that they depend upon the organization or integration of neural processes. If we are to explain these in this way, or explain attention and other higher mental processes as the "total integration of reaction-arcs," what is the integrating agency? In psychology now we do not speak primarily of mind; we speak of an organism which receives stimuli and reacts. Certain kinds of *activities* are now called mental. We think of the brain and the nervous system as instruments for more and more perfect adaptation to the environment. We know what they are instruments *for*, but what are they instruments *of?* Apparently of the biological interests, of "the energy-influences seething and bubbling in the organism."

[1] See above, pp. 156–58.

[2] *Mind-Energy.* Lectures and Essays. Trans. by H. Wildon Carr, p. 33. The italics are mine.

Driving forces or aspirations?

But now before we leave this part of the subject, a curious question comes up, a question that has confronted us in former chapters and will haunt us to the end, the question of *push* or *pull*. How shall we really interpret the biological interests? Shall we interpret them as purposive energy, as driving force, or as cravings? The phrase *driving force* is a telling phrase and fits in with the dynamic philosophy of the day. It means the operation of a force working from behind, and so we go back in a vain quest for the *initial* push, and get no rest until we arbitrarily stop at some *original* creative power, or God. The phrase *purposive energy* seems a little better. It has the forward look — suggests the quest, the search, the striving; and yet I wonder whether the word *energy* is the word we want here. If the world is an overflowing, outpouring, productive process endlessly creative of new values in the pragmatic sense, then the phrase is correctly descriptive of the reality in question.

But it is just possible that the word *craving*, or the word *interest*, is the best of all. Is God the creative power back of us, or the ideal which is drawing us on? Are the higher values the outcome of a productive process, or are they limits toward which we are ever approaching — the "beauty-in-itself," the "good-in-itself," which Plato never tired of telling us about? Possibly the simplest organism is *interested* in self-maintenance and self-perpetuation, just because life itself is good; possibly we are interested in thinking and reasoning and in æsthetic production and in social justice, just because thought and reason and beauty and justice are good — are values; possibly our biological interests are forms of *hunger* — but that kind of hunger which Bergson calls *aspiration*, which we may call *creative effort*. It is perhaps only because of the habits of thought acquired in an age of mechanism that the phrase *driving force* seems more apt than the words *aspiration* or *appreciation*. Perhaps the power behind the throne in our mental life is "a power that makes for righteousness."

This all seems very metaphysical for a chapter on the philosophy of mind — and too speculative. Let the reader who so

thinks forget these paragraphs and go back to the biological interests, which are obvious facts, and without which any philosophy of mind would be fatally lacking, and then let him meditate upon the word *interest* and formulate an explanation of his own. Perhaps the slightly different way this whole matter is put by Hobhouse will have a stronger appeal to most of us. He considers the world to be a process of development in which the principle of development is the principle of rational harmony or love. But the whole of reality is the entire process, in which the beginning is determined by the end as well as the end by the beginning.

> A process thus determining and determined by its own outcome is of the nature of Effort, and the world development must therefore fall under this category. . . .
>
> This Effort is the creator of gods and men, of beautiful fictions and of what is noble in fact, of law and morals, of science and art, perhaps of what is beautiful in nature, certainly of the significance of that beauty to us. Its operation is intelligent and purposive and all-embracing. An effort involving, even one evolving into, purpose implies Mind, and Mind that makes for harmony must have some unity throughout, however rudimentary its achievement. Hence if the world-process is directed towards harmony we legitimately infer a Mind at its centre, but the form of unity which such a Mind possesses is less easily determined. It is possible that personality on the one hand and the social union of personalities on the other are rather its creations than adequate expressions of its substantive essence.[1]

If this be true, then that part of the mind which we call *impulse* is related, not only to that which we call the *biological interests* in the whole organic kingdom, but related also at the same time to a world-principle which Hobhouse calls *Effort;* and then possibly, as he suggests in the last sentence, personality and human society are creations of this universal cosmic Effort. Personality, then, might be a kind of world *goal*, for the attaining of which the human brain and the intelligence springing therefrom might be instruments.

[1] L. T. Hobhouse, *The Rational Good* (Geo. Allen and Unwin), pp. 229, 230.

II. Mental Processes

But now we are ready to take our next step in the philosophy of mind. Let us keep steadily in view, however, that the mind is a very complex thing, inclusive not only of what we commonly call mental or intellectual processes, but also fundamental proclivities, interests, or impulses. These latter we have been studying; now let us go on to the distinctively mental processes sometimes included under the general term *intelligence.*

Here we could follow the method of the new schools, whose illuminating work in the philosophy of mind we have studied in the preceding chapter — the Pragmatists, the Behaviorists, and the Neo-Realists. We could begin with the study of the organism possessing the properties of stimulus and response; and we could trace the evolution of mind from the simple reaction-arc through tropisms and instincts to the first appearance of adaptive behavior; and we could then show that this adaptive behavior is what we call *mental.* We could point out that what we mean by mind is a certain kind of behavior, namely, that which involves selective control and specific response; that mind is a certain new capacity which an organism acquires as the result of higher and higher integration of vital processes, the capacity to respond as a unit to a new situation in such a way as to conserve and enhance its well-being. Thus far this would be the general behaviorist method of approach; and then we could supplement this objective and impersonal approach by going on to show that what we call *behavior* and *mentality* in others is, when *lived through* or *experienced* by ourselves, what we call *consciousness* or *experience.*

All this would be quite proper and, provided we did not leave out of account that very important part of the mind which we have just been studying, namely, the vital impulsive strivings or springs of behavior, would give us no doubt a sound and scientific philosophy of mind. Then, indeed, if we wished, we could limit the narrower word *mind* to the second of these stages in psychical evolution — that is, to intelligence or adaptive behavior — and apply the richer word *soul* to the whole group of

impulses, activities, and relations which we differentiate as impulses, intelligence, and consciousness.

But I think there is a better method of approach than this. It would seem to the reader to be too cold and theoretical and abstract; it would be too biological. When fully completed he might say, "This is all a very fine philosophy of mind, but it is not sufficiently empirical. A philosophy of mind ought to start with facts of more immediate experience, not necessarily with my own subjective experience, but with well-recognized forms of mental activity. It should start with thinking, feeling, willing, perceiving, remembering, reasoning — not with physiological things like reaction-arcs and synapses and adaptive behavior. People don't behave — they think and reason and remember and forget and love and hate."

The empirical approach

Very well, then, suppose we begin more empirically with well-known mental facts, and then afterwards, perhaps, we can connect our results with the less known physiological facts. Suppose we address a question like this to any one, a college student, a business man, a worker in the shops: "Are there such things as mental processes, and if so, mention some." He will answer, "Why, yes, of course there are; there are such things as thinking, feeling, remembering, forgetting, loving, hating, having pain or pleasure." Obviously such things as these exist and may be talked about, just as stocks and bonds, butter and cheese, roads and lanes, exist and may be talked about. So thinking and reasoning, recollecting and planning, liking and disliking exist, and, indeed, for the moment, it does not make any difference whether they are things or processes or relations or faculties or brain states or even secretions of the endocrine glands; they just exist and are very interesting. Neither does it make any great difference at present how we come to know them, whether by introspection or intuition or immediate feeling, or by just watching the behavior of other people; they exist just the same. They are real, and there is no other kind of reality so very real as these mental things. In the actual daily experience of men, the ultra-

real things, so to speak, are not butter and cheese, wood and steel, dinners and dollars, but pleasures and pains, love and hate, fear and jealousy, desires, ambitions, decisions, passions, longings, regrets, sorrows and sins. Dollars would have no meaning were it not for desires.

We have, then, made a good beginning in the study of the philosophy of mind; we have found that certain processes, such as we have named, have a very real existence and may be talked about and studied, that by common consent they are an interesting class of things, that they are usually called mental things, and are distinguished from physical things, such as houses and furniture and animal bodies.

But what is there common to all these things, all these processes which we call mental? Well, objectively they appear to be forms of behavior of an organism, say an animal or person. They are all modes of reference of some subject to some object. They are attitudes of a subject toward some object. Some subject, perhaps just an organism, is striving toward some object; some animal, perhaps, is pursuing or escaping from some other animal. Or possibly some subject is pleased at something, or pained at something, or holds a cognitive attitude toward something — that is, knows it or recognizes it. In all of these three kinds of reference there is this common element, namely, the behavior of some subject to some object.[1]

Objectively, therefore, these things or processes which we call mental are forms of behavior, attitudes of men or women or children, or perhaps of the higher animals; and let us for the present consider them only in this objective way, simply as a class of evident and undeniable facts in the drama of human history as it is played before us, or in the evolution of animal life. Of course, it will immediately occur to each of us to say that all this *display* of mental behavior in the world around has quite a different aspect as it unfolds itself in one's own inner consciousness, in one's inner conscious life of experience, as one gets it through *introspection*. This is no doubt true, but suppose, just as an experiment, we leave this side of mental life out of account for the

[1] Compare John Laird, *Problems of the Self*, chap. II.

present. Let us see if it is possible to construct a philosophy of mind on a strictly objective basis, as we would construct a philosophy of nature. The Behaviorist, who disregards consciousness and suspects the method of introspection, studies mental facts as objectively known; let us follow his method for a while. He too speaks of habits, instincts, emotions, illusions, dreams, thought, memory, fear, fatigue, imitation, and personality.[1]

But the reader may interrupt at this point. "May it not be," he asks, "that, after all, these mental facts or processes of mind, whose reality, interest, and importance I must admit, are nothing more than bodily attitudes, brain states, functions of the cortex or motor centers, or conditioned reflexes?"

Well, even if they had only an objective reference as bodily attitudes and no inner meaning as parts of my personal life, these processes would still be realities and they would still be *mental* realities. If you think of the consequences in the history of the world of such things as love and hate, ambition, avarice, remorse, thought, invention, reasoning, you will see that we are dealing with real things; if you were to try to express them in physical terms you would feel that you were not giving them their real names.

Neither shall we get any nearer to the reality of the mental processes if we try to analyze them into simpler elements, such as mind-stuff, or the movements of atoms, molecules, or cells. Butter and cheese are very useful and desirable things. They do not lose any of their reality when it is discovered that they are combinations of carbon, oxygen, and hydrogen. Butter and cheese do not need to hang their heads when they discover their composite nature and say, "We thought we were realities of intrinsic worth and now we find that we are nothing but a function of carbon, oxygen, and hydrogen." In a case like this, the "nothing but" contains a fallacy. The chemical elements are not the *realities* in butter and cheese; they are merely the *materials*. The reality is in the *form*, in the *organization*, and in the qualities which are the outcome of the organization.

If this fact is fully grasped, it will forever free us from the fear

[1] Compare Watson's *Psychology from the Standpoint of a Behaviorist*, Index.

of any materialistic degradation of our mental life coming from the study of its material conditions. The things of our mental life are not material things or processes; they are spiritual, as we shall see later. What we have to remember is that, if we wish to speak of *reality*, there is nothing that is or can be more real than our mental life. The notion that it could be *reduced* to something more real, such as matter, motion, mind-stuff, electrical charges, arises from a misapprehension. It is also due to a misunderstanding when mental processes are "explained" as functions of the body or brain, or reaction-arcs, or synapses, or endocrine glands. These are, no doubt, all real, and are useful elements of the situation, but, having helped us to complete the whole structural picture, they have served their purpose. They can take a back seat and keep quiet. They have been transcended. We have passed into the sphere of higher reality and greater worth.

In mind we are in the very presence of reality. All such theories as are presented in materialism, naturalism, atomism, or even in psychism, which try to go back to some greater reality than that of the mental fact, or to penetrate by analysis down to the elements of reality, are misleading. Aristotle, with his notion of the mind as the form of the body, and of reality as attained through a process of development from the union of form and matter, the latter being merely potential reality, gives us a more faithful philosophy.

Thus far we have learned at least one useful lesson. We have learned that mental processes, thoughts, feelings, fears, aspirations, pains, pleasures, decisions, cognitive states, are real things, abating nothing from reality, however much we wish to stress the word. This is no small achievement; for suppose that with some psychologists we regard the mind merely as the sum of mental processes, a convenient term to express the totality of mental life, we have at any rate made some progress in attaining a philosophy of mind.

And, indeed, it would seem that we have thus far made no unlawful assumptions, any more than any scientist makes assumptions in collecting his facts and materials. The most confirmed

Behaviorist, as has been seen, uses the same terms in describing the facts that he is studying. Thought does not cease to be a powerful factor in the world's history merely because it is described as highly integrated bodily activity. That it is only integrated bodily activity is, as the Behaviorist freely admits,[1] an assumption. But if it be that, what of it? There would be no "degradation" or materialization of thought in so describing it. In introducing such concepts as vital activity, organization, structure, a high degree of integration, the Behaviorist is speaking of a new and wonderful set of realities, quite as "lofty" and as dignified as thought or emotion. Only it happens to be thought and emotion that we are speaking of.

Personality

But now another illuminating fact appears in the situation. Still clinging persistently to our objective method of study, let us consider what we mean by personality, the Self, the Ego. Mental life is not merely a stream of thought, not just a bundle of sensations, not a mere series additively grouped; but a wonderful unity, taking the form of personality. Here again comes something new, something of infinite dignity and worth — namely, the self, the man, the ego, the personality, the *soul*, if I may be permitted to use this tabooed word, a word the richness of whose connotation will perhaps bring it back when psychology has progressed beyond its awkward stage.

The following quotation from John Laird brings this great fact of the unity of the mind into clear relief:

> It is a truism that no study is more perplexing and, at the same time, more interesting to a man than the study of mankind and, in the end, of himself. Even if the pressure of the day's business leaves the average man but little time for self-reflection, he is still intensely interested in the personality of others, and the most obstinate questionings which beset him concern his soul and theirs. Moreover, the great objects of human interest affect personality and are tinged with personality. It is unnecessary to prove this statement by referring to the drama, the novel, history, biography. The thing is too obvious to require comment, and it is enough to illustrate it by mentioning a curious fact.

[1] Watson, *op. cit.*, p. 326.

Even those who in general have no great fondness for the study of biography are more keenly interested in the personal history of the great writers in literature than in their works, or, at any rate, are interested in a degree out of all proportion to the intrinsic interest of the careers of those authors. How else is it possible to explain the mass of literature and the years of discussion devoted to the shadowy author of the *Odyssey*, or to the stray hints which are all that is known of the career of Shakespeare? Nor is the reason very far to seek. As Samuel Butler says, "Every man's work, whether it be literature, or music, or pictures, or architecture, or anything else, is always a portrait of himself, and the more he tries to conceal himself the more clearly will his character appear in spite of him." . . . It may be a rare thing for the artist to be more interesting than the whole body of his work, but his character and career usually excite more attention than those of any one of his creations, and thus it is that the self is central among the things which touch the spirit of man.[1]

In speaking here of *personality*, we are using the word in its objective sense — just as we use it in daily life when speaking of other people. In using also the word *self*, or *ego*, or even the word *soul*, we are not implying the existence of any mysterious core of reality such as was formerly meant by soul or spirit. We are speaking of personality as we meet it in our everyday experience. Call it, if you please, after the language of the Behaviorists, the totality of "inherited and acquired reactions and their integrations," an individual's total assets and liabilities on the reaction side, or "the total mass of organized habits, the socialized and regulated instincts, the socialized and tempered emotions, and the combinations and interrelations among these." Or call it, after the manner of Mr. Laird, the organization of our mental processes. Whatever we call it, we all know that there is nothing else quite so *real* or quite so potent as personality. It is personality that counts in our social life, in our commercial life, in our college and university life, in our homes.

It was this obvious fact of the peculiar dominating power of personality and the peculiar unity and uniqueness of the Self, which led all through the centuries to the notion that the human personality consists of, or is grounded in, a kind of entity or sub-

[1] John Laird, *Problems of the Self*. (Copyrighted by the Macmillan Company, reprinted by permission), pp. 1, 2.

stance called the soul; a simple, indivisible, and indestructible being. It was a substance in the sense of "an unchanging being which persists throughout the changes of experience."

The soul was thought of as *having* the experiences, as if it could think, feel, endeavor, act. This came partly, no doubt, from the felt need of picturing the unity and persistency and identity of the Self in some concrete manner after the analogy of physical things, like an atom or grain of sand. Such a soul could be "located" in a particular part of the brain, as was done by Descartes; and of course it was immortal, leaving the body at death. No doubt, too, this way of regarding the soul came partly from a faulty logic inherited from Aristotle, which made too much of a certain relation of substance and attribute, mental processes being thought of as attributes which "inhere" in a real substance called the soul. Our new evolutionary way of thinking has changed this. Complexity rather than simplicity may be the ground of reality. Perhaps personality represents the acme of complexity and yet the perfection of reality.

There results what we call the *Self* or the *Ego*, a personality possessing unity, continuity, personal identity. The reality of the Self is found in the *connectedness* of its parts, not in the parts themselves. A thing, says Windelband, is "always the connectedness of its properties, a synthetic unity, in virtue of which they are not merely found together, but are necessarily interwoven. Thus we define chemical substances as the molecular unity of atoms which do not casually co-exist, but belong to this unity." [1]

Mind is what it does

But now perhaps we can take a further step. We may be able to find out something more about the mind than that it is an organization of mental processes taking the form of personality. To do this we shall find it more profitable to study not what the mind *is*, but what it *does*. The old notion that you

[1] Wilhelm Windelband, *Introduction to Philosophy*. Trans. by Joseph McCabe, p. 71.

It should be kept in mind that personality is a fact — a reality, an existing thing, even an entity, if you please. (Compare the discussion of these terms in

will penetrate into the heart of something by analyzing it, picking it to pieces, dividing it into its elements, is not fruitful in studying the mind. If we take the other way and inquire what the mind's powers are, its capacities, then we get forward in a remarkable degree. When we adopt this method of studying the mind, we instantly discover that it has certain wonderful powers differentiating it from any other form of reality. The first and most characteristic of these powers is the one already noticed, that of adaptive behavior. Wherever we see among organisms the ability to exercise selective response, "to adapt action to requirements on the basis of experience," "to make adjustments to novel features in a situation, adjustments not provided for by familiar ways of response," wherever organic habits are reconstructed to meet conditions which would otherwise bring the life activity to a halt, there we have mind. Mind is self-assertive, self-maintaining.

What it is to have a mind is stated by Woodbridge as follows:

> To-day the idea that 'to have a mind' means 'to act in a certain way' has become a commonplace in psychology. To think has become an adventure and a real instrument in adaptation. Knowledge has ceased to be regarded as simply the mental counterpart or image of an objective order, and knowing has become an active participation in the order of events. In other words, to be conscious of objects does not mean to possess their psychical equivalents, or imply a possible consciousness which might possess the equivalents of all objects whatever, and so be the perfect and complete representative of the world. It means rather to operate with objects effectively, to seek and avoid, to work changes — in short, to organize experience. This newer conception of mind has spread beyond psychology and markedly affected anthropology and sociology.[1]

Mind is, therefore, an activity, a power, a capacity, and in

Spaulding's *The New Rationalism*, chap. XLIV.) Furthermore, it would appear from the keen analysis in Laird's *Problems of the Self*, chaps. XII and XIII, that the soul is a "substance" after all; not, to be sure, in the old physical sense of an unchanging core or substratum of reality, but in the modern sense of an organization of psychical experiences. Probably the whole controversy about the soul substance came from taking the word *substance* too seriously. Lotze, for instance, calls the self (soul) a simple and indivisible substance, but says he uses the word innocently to designate its unity. (*Metaphysics*, English trans., vol. II, pp. 173–74.)

[1] F. J. E. Woodbridge, article on "Pluralism," in Hastings's *Encyclopedia of Religion and Ethics*.

evolution it is a new power and a new capacity, crowning the whole evolutionary movement. It seems that the creative synthesis present in successive stages of the earth's history, from the purely mechanical to the chemical, thence to the organic, thence to the psychic, increases in a kind of geometrical progression, the creative power of the human mind knowing scarcely any limits. In mind nature reaches a higher level, issues in a new reality, in the description of which a new set of terms is necessary. Not only has mind the power of envisaging the future and then of controlling the present to realize the future, but it is also at home in the field of values; it creates these values, then overcomes all obstacles to realize them; its field is the field of science, philosophy, art, literature, and criticism. It surveys and criticizes the whole world process, including its own self; it not only studies itself, but it has power over itself, self-control and self-direction lying within its scope. It not only knows and studies the world, but dominates and controls it; the most powerful of the lower animals cower before it and become obedient. The forces of nature are likewise subservient to mind. It changes the direction of energy, subverting to its own ends every form of energy, molar, molecular, chemic, thermic, and electric, and by means of these transforming the face of nature and modifying its own environment, conquering soil and sea and air. It institutes great commercial and industrial enterprises, revealing a resourcefulness and inventiveness almost uncanny.

Not only does the mind have the power of dominion; it has the finer faculty of appreciation. It discovers something in nature which we call beauty and is silent before it; a pure and peculiar joy is felt in its presence. Could there be any more signal evidence of the power of mind to transcend the forces of the physical world than the subtle gift of appreciation? Nothing except the power to transcend nature in the production of beauty; and this mind does in the field of art. In morals, again, it visions higher ideals of conduct than any known before and controls itself to realize these ideals. Finally, in human society it proposes a program of coöperation, love, peace, and sympathy to take the place of the older rivalry and war.

These are some of the things that mind *does*. We seem to be in the presence of a peculiar and distinctive form of activity which we may call *spiritual*, if we do not use the word spiritual in any ghostly or metaphysical sense, but merely to signify that kind of activity which includes not only the intelligent, the emotional, and the voluntary, but also conveys the notion of the power of appreciation and the creation of the things of highest value. Hoernlé describes the mind as follows:

> What seems required is a concept of mind, not so much merely as a "cross-section" of the universe, but as a *focus*, or *centre*, of experiences of the universe — a "subject" (in Hegel's sense of the term), not a substance; a new power, one might almost say, evolved in the world, endowed with the function of bringing past experience to bear on the interpretation of present data, of planning and guiding action in proportion to knowledge, of controlling desire and seeking new truth, of enjoying beauty, of loving and hating, of serving and fighting, of coöperating with its fellows and of persecuting them, of ascending, in short, to all the heights and falling to all the depths which men and women know to lie within the compass of human nature.[1]

We have seen, then, what the mind *does*, and from our modern point of view to know what it does is to know what it *is*. It is an activity, a power, a capacity, a process, or an organization of processes, *and it is real because we see in our daily experience these things done*. That the mind is a dynamic and effective factor in the world is the key to the new philosophy of mind of the present time. We are not to suppose that the mind is something different from the activity, as if some mysterious thing or substance called mind or soul or spirit were acting, or as if the world were divided into two realms, mind and matter. This dualistic notion does not follow from the facts before us and is passing away in philosophy.

But strangely enough at first sight, it is not necessarily replaced by a monistic conception, as if one should say, "Oh, I see. There is no separate kind of being called mind; it is only matter in a highly organized form in the human brain that does all these things." It is hard for us to escape from these old scholastic

[1] R. F. Alfred Hoernlé, *Studies in Contemporary Metaphysics* (Harcourt, Brace and Company), pp. 242, 243.

habits of thought, seeking reality in some metaphysical basis or substance called *matter* or *spirit*. What we call *matter*, as the term is used in physics, is the last thing on earth which could have these capacities, if we could speak of matter as having capacity. Or, if we wish to substitute atoms or electrons for the word *matter*, the situation is no better. Atoms and electrons, if we wish to think of them as substances which can do things rather than as symbols for certain forms of activity, cannot think or plan or fashion ideals or exhibit adaptive behavior; nor does it have any intelligible meaning to say that the atoms when organized in the form of a brain can *do* these things. Things are being done, but the atoms are not doing them.

Neither does an idealistic form of monism help us to a right understanding here, although it might be preferable to a monism of a materialistic kind. To say that there is an underlying unity or entity or substance in the world called *mind* or *spirit*, whose manifestations we behold in ourselves and the surrounding world or whose attributes are thought, feeling, memory and will, is likewise to fall back into outworn scholastic habits of thought. *In the study of the mind, the reality is before us; we are in its presence. Our mental life is not the manifestation of some hidden reality; it is the reality. There is a unity, but it is not an underlying unity, a world-ground, a presupposition of all things; it is rather a unity achieved, a unity of organization, a unity of real psychical experiences.*

But now the reader may say, "I do not quite get my bearings yet. That mental processes exist, that they are organized into a unity which we call *personality*, that mind in this sense is creative, and that it further has the power of imagination and appreciation — all this is evident fact. The creative and original power of the mind is daily seen in science, in the mechanic arts, in literature, and in the fine arts. I have only to recall the creative work of Humboldt, Darwin, Shakespeare, Beethoven, Edison, Burbank, and countless other great minds. But still, I do not yet quite see what this creative mind *is*. It is not the brain; it is not a mysterious spiritual substance called the soul."

Mind the fruition of the body

Perhaps it will help us to understand this if we think of the mind as a new power or capacity which has arisen as the outcome of the structure and organization of simpler elements. Atoms are real, body is real; but so also is mind. The world may be looked upon as a process of creative evolution, in which higher and higher realities are progressively realized. It is a process of *realization* — perhaps, we may say, of progressive achievement. Aristotle had the right idea when he thought of the mind as the "form," or the realization, or the fruition, or perfection of the body. The body and the brain are stepping-stones to the higher reality, the mind. Evolution displays a series of *levels;* and the secret of the successive stages is found in organization. The word *integration* might be used. The important thing to observe here is that the organization of vital or neural processes takes us into the realm of the psychical. Creative synthesis is at work all along the line in evolution, and *novelties* appear at each new level.

The theory of levels we have studied in a former chapter, when we were examining the nature and origin of life. Just as we saw there that atoms are combined into molecules, not additively, but organically, giving rise to new properties which could not be inferred from the properties of atoms, and molecules again into living cells, in which emerge the new and wonderful properties of growth and reproduction, so now we find that *mind* emerges from the organization of vital processes.

Mind as spirit

Once again nature has risen to a new level, to the level of the psychical, to the realm of mind. Psychical processes are not neural processes; they are new processes, having their own distinctive subject-matter and their own laws. We are now up in the realm of the mental, of the psychical — we may even say, of the spiritual. By spirit we mean mind appraised from the standpoint of value; and since I believe that in the successive levels up which nature climbs in evolution, there is a successive increase in value, it is proper to speak of the higher realm as the spiritual. It would be permissible for any one who wishes to

carry this thought further to speak of still higher levels in evolution, namely, the moral and the social.

Thus it appears that from the standpoint of evolution mind is an *achievement*, a fruition, perhaps a goal. We have learned that mental processes are real; that they take a form of unity which we call *personality;* that they appear as new and distinct powers and capacities, the power of adaptive behavior, of creative work, and of æsthetic appreciation; and, finally, that they represent a stage in the progress of evolution distinguished by the achievement of mind.

Of course, the question will be asked whether we really have a right to use the word *achievement.* Would it not be better — at any rate safer — to be satisfied with the ground we have gained and speak of structure and organization and the new qualities and capacities which structure brings? This alone would furnish an adequate philosophy of mind; why go farther and speak of the mind as an achievement? The word *achievement* seems to imply both a goal and an agency striving toward the goal. Have we any assurance of either?

I suppose in strictness that we cannot be sure that we have a right to use the word *goal* in speaking of the place of mind in the great world program. This will depend upon how far we may wish to carry our teleological view of nature. But our philosophy of mind may be reasonably complete without this belief. We may be content to speak of mind as something realized in the process of evolution. I think few of us would hesitate to call it a value, and that it is the result of striving, if not the goal of striving, we have found many reasons for believing.

Let it be remembered, finally, that in this second section of the chapter we have been studying the mind in its narrower sense, as *intelligence*, as adaptive behavior, including what we commonly call *mental processes*, such as thinking, perceiving, remembering, and judging; and we have learned that this intelligence is creative, and that it takes the form of personality.

Let it be remembered, further, that the word *mind* is often used in a broader sense (where the word *soul* would be preferable) to include also those conative tendencies, or biological interests,

which we studied in the earlier section, as well as that peculiar thing which we call *consciousness*, to be examined in the section to follow.

III. Consciousness

It remains to speak of consciousness — a word having many meanings often confusing to the student. Owing to this confusion many psychologists have dropped the word from the vocabulary of their science. In particular the Behaviorists, while not denying that consciousness exists, have been very successful in constructing a science of mind without any reference to consciousness at all. In the two preceding sections of this chapter, we have made little reference to consciousness and yet have arrived at a philosophy of mind as a new power developed in the world, a sum of remarkable capacities organized into a personal unity or self, and actuated by deep underlying impulses and interests.

Consciousness and mind distinguished

Nevertheless, we must make the attempt to find out what the word consciousness means. A behavioristic psychology may, indeed, ignore it; but a philosophy of mind dare not do this. In the first place, we must not use the word *consciousness* as synonymous with *mind*, although this has often been done. We might, of course, say that something called consciousness *accompanies all* mental states and processes, but even this is very questionable. The Freudians have developed a vital and widely accepted theory of mind, in which unconscious mental elements play an important part. Or take this example: We may witness fear and anger in a child; they are fear and anger — not consciousness. If you say that you are conscious of the child's anger, you mean nothing more than that you perceive it or are aware of it. The child himself may be conscious of his own anger; but if he is, the two are certainly not the same; and, indeed, he may not be conscious of it. Very likely he is not; he is just angry. Many animals exhibit fear and anger when it would be gratuitous to think of consciousness entering into the situa-

tion at all. Clearly, then, mind and consciousness are not the same.[1]

Neither can we think any longer of consciousness as being a kind of substance or primordial *stuff*, out of which mind is made, or out of which the world is made, nor can we think of it as an entity, or quality of being in itself.[2] Nor can we any longer think of it as a kind of receptacle *in* which ideas and other mental things are or exist. Nor have we any "right to conclude that consciousness constitutes a series of existences parallel to other existences." [3]

Consciousness as inner experience

Eliminating these various misconceptions of consciousness, what remains as the real meaning of the word? One very simple solution of the problem and one which at first sight, at any rate, seems to be satisfactory, is the view set forth in the preceding chapter, when discussing historical theories of mind, the view held by Warren and by many other psychologists. Adaptive behavior when witnessed in others we call *mind;* when *experienced* in ourselves, it is called *consciousness.* Conscious phenomena are merely mental phenomena as they appear subjectively in our own experience. There are two ways of observing mental phenomena; in others and in ourselves; in the latter case they form a group of conscious phenomena. It is simply another way of looking at the same facts — this introspective way; but a very important and instructive way, giving us a new world of inner experience. Strictly, it is not a new world, but the same world regarded from a different point of view, namely, that of inner experience. Consciousness is thus a kind of privacy — an intimate, inner, serious aspect of mental life only half revealed to

[1] Witness the rather strong language used by Bertrand Russell in his book, *The Analysis of Mind*, p. 40: "It is therefore natural to suppose that, whatever may be the correct definition of 'consciousness,' 'consciousness' is not the essence of life or mind. In the following lectures, accordingly, this term will disappear until we have dealt with words, when it will reëmerge as mainly a trivial and unimportant outcome of linguistic habits."

[2] See James, "Does Consciousness Exist?" *Jour. of Phil., Psych., and Sci. Meth.*, vol. I, pp. 447–91.

[3] See F. J. E. Woodbridge, "The Nature of Consciousness," *Jour. of Phil., Psych., and Sci. Meth.*, vol. II, pp. 119–25.

the observation of others. Consciousness is thus *experience* as it is *lived through* by the one who is having the experience, the one who is thinking, feeling, wondering, longing.[1]

There seems to be no objection to the recognition of this meaning of the word *consciousness*, provided it is not interpreted in a metaphysical way as a kind of double-aspect theory, as if reality had two sides, a mental and a material side. There is no reason why a person should not observe his own mental processes, and associated with such observation there would be a wealth of memories and of organic feelings not accessible to others.

Consciousness as a relation

But, after all, I believe that the truth in this theory of consciousness can be explained better by a slightly different approach. The very simplest and most natural meaning of the word *consciousness* is just *awareness*, involving nothing more than a peculiar *relation* between the perceiving individual and the object perceived, characterized by attention and interest. Suppose you are sitting alone reading in a room. Suddenly you become conscious of the presence of another person in the room. Evidently all that is meant is that you become aware of him; you hear a slight sound, your attention is arrested, you interpret the source of the sound as a person. It seems to be just a perceptual process, which arouses and holds the attention. The unique quality of the experience is found neither in the mental content, the sound, nor in the interpretation of the sound as a person; but rather in the *relation* between the object perceived and the percipient subject. It is not a matter of perceiving or of judging; but just of being aware.

Let us take a still simpler illustration. You are sitting in a room where a clock is ticking; you are engaged intently upon some interesting task; you are not conscious of the clock. Suddenly, however, you become conscious of the clock ticking, which means simply that you become aware of it, your attention is

[1] Compare S. Alexander, *Space, Time, and Deity*, vol. I, Introduction; and Wendell T. Bush, "An Empirical Definition of Consciousness," *Jour. of Phil., Psych., and Sci. Meth.*, vol. II, p. 561.

drawn to it. Evidently this is the very simplest case of consciousness, involving nothing more than awareness. Again, let us say, that a deer browsing in the woods suddenly becomes *aware* (conscious) of a hunter. The deer just hears him, or smells him, then attends, then perhaps reacts violently to the situation. Here there would seem to be nothing in addition to the cognitive and motor aspects of the experience except a certain kind of relationship characterized by attention and interest.

We see, thus, that while consciousness in its simplest form is just awareness, it gradually takes on the relation of interest and meaning. The sleeping violet receives the first warm rays of the sun in spring and responds. Shall we say that the violet is aware of the warmth of the sun and is conscious of it? We are hardly justified in saying either. The deer is aware of the hunter's approach; shall we say that the deer is conscious of the hunter? Evidently *aware* is the better word here. But the reader in the room is *conscious* of the other person's presence. There is evidently here a relation of *meaning* in addition to the mere awareness.

Consciousness appears, thus, to be a special kind of relation between the percipient subject and the thing perceived. If this be the primary sense of the word *consciousness*, much of the mystery and confusion about it is removed. It is not a name for the whole mind; it is not the same as mind or soul; it is not any special kind of stuff. We cannot any longer speak of *the priority of consciousness*, or *the stream of consciousness;* perhaps not even of *the field of consciousness.* In all of these expressions we are talking about something else, namely, the mind, or mental acts, or mental processes. And yet *consciousness*, as I have described it, is a distinct feature of that total thing which we call the *mind* or *soul*, and is different from all the other parts of it which we have been studying. When we speak of mind in the narrower sense, we are concerned with some kind of *doing.* There is a situation to be dealt with; a problem to be solved; resistant material to be controlled; a conflict to be adjusted. To all these "doings," to the whole system of actions, habits of actions, of

plans and projects, of memory images and motor tendencies, we may give the name *intelligence, mentality,* or *mind* in its restricted sense; and to the organization of all these actions and habits and memories and names, we may apply the term *personality* or *self.*

But *consciousness* is different from all these. It is more like an evanescent something throwing light on the momentary situation. Perhaps this light is simply the *meaning* which things get by being grouped in certain relations.[1]

Self-consciousness

Sometimes, however, we use the word *consciousness* in a broader sense than that of the relation of meaning and interest which subsists between the perceiving organism and the thing perceived. Sometimes we distinguish what we call *self-consciousness;* but the principles involved are not different in kind. Self-consciousness is still a relation — a *togetherness;* only now there comes into the new grouping a wealth of subjective elements, memories, names, interests, and conative tendencies.

Perhaps the difference between consciousness and self-consciousness may be illustrated in this way. When we take ether, or any anæsthetic, we say that we lose consciousness. One's experiences in regaining consciousness after the anæsthetic are instructive. There is first a mere awareness, perhaps of certain noises, possibly of the nurses speaking, not brought into any clearly defined relation with oneself or the situation. Gradually the situation dawns; *I* am here and have been asleep. The voices, myself, the environment, are knit together into a connected story; I have regained my consciousness. Clearly we

[1] On the relational theory of consciousness, consult

James, "Does Consciousness Exist?" *Jour. of Phil., Psych., and Sci. Meth.,* vol. I, pp. 477–91.

McGilvary, "Experience as Pure and Consciousness as Meaning," *Jour. of Phil., Psych., and Sci. Meth.,* vol. VIII, p. 511–25.

Woodbridge, "The Problem of Consciousness," *Studies in Phil. and Psych.,* by former students of G. E. Garman. 1906.

Woodbridge, "The Nature of Consciousness," *Jour. of Phil., Psych., and Sci. Meth.,* vol. II, pp. 119–25.

Montague, "The Relational Theory of Consciousness and Its Realistic Implications," *Jour. of Phil., Psych., and Sci. Meth.,* vol. II, pp. 309–16.

have here two uses of the word *conscious*. In a way I was conscious of those first voices; I was aware of them — that is, I merely sensed them. In the other meaning of the word, consciousness is the connecting together of a present experience with my past experiences into a kind of coherent story. In the latter sense it is more than mere awareness, or any kind of response or behavior or adaptive reaction. It is something new in the progress of evolution, something unique and distinctively human. And yet to understand this unique character, it is perhaps not necessary to call it, as some have done, a "new dimension of reality." [1] Call it, perhaps, a new and unique form of relationship, a grouping of the complex elements of the self and the environment.

Certainly the philosophy of mind will be greatly simplified if this view of consciousness may be accepted. If we find difficulty in accepting it, perhaps this will be because of our long cherished habit of identifying consciousness with mind. But I believe that something will be gained if we place the greater emphasis upon thought and creative intelligence as constituting the very essence of mind, and reserve the word *consciousness* for that peculiar and significant relation, or togetherness, which sheds a new light and meaning upon our whole psychical life.[2]

Conclusion

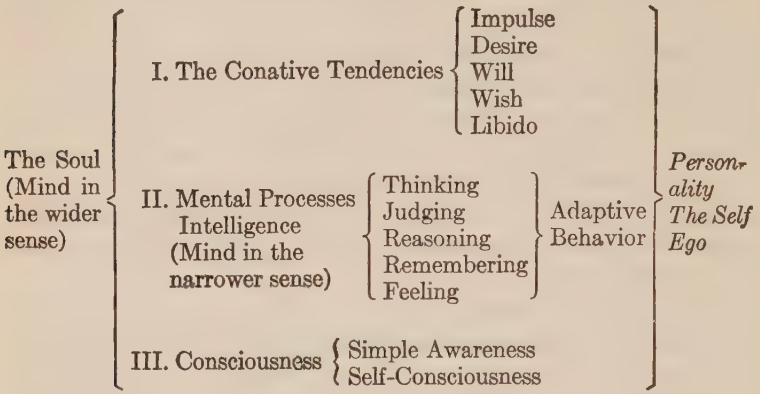
Our conclusion is that the mind is a very complex thing, including, first, a group of conative tendencies or biological interests; second, a system of adaptive processes which we may call behavior (mind in the narrower sense); and, third, consciousness. It would conduce to clearness if we could use the word *soul* for mind in the broader sense to include the totality of dispositions, processes, and relations, and reserve the word *mind* for the narrower group of processes included in adaptive behavior, the

[1] Compare the full discussion in Spaulding's *The New Rationalism*, pp. 470–86.

[2] Compare the full theory of consciousness given by Bertrand Russell in his *Analysis of Mind*, already referred to, p. 288 ff.

Read also the account of consciousness in Boodin's *A Realistic Universe*, chaps. VII and VIII.

corresponding adjectives, *psychical* and *mental*, falling into their appropriate places. The following table will show graphically this philosophy of mind:



Immortality

The view of the soul as a value realized through the long progress of time has a peculiar significance for the old problem of the immortality of the soul. It has always been felt that the doctrine of immortality ascribes to the soul a peculiar worth and dignity. The soul, since it is deathless, is a thing of priceless value, having something of divinity and a peculiar sacredness. Such a belief could not fail to have ethical implications of great importance, sanctifying conduct through the expectation of an endless life.

But all this lofty philosophy rested upon a faith in the survival of the soul after death, and this again depended sometimes upon certain religious tenets, which in times of religious doubt would lose their convincing power. Hence there would be danger that the loss of that particular tenet of religious faith — one having, perhaps, little relation to the essentials of religion — would issue in the loss of moral ideals. While the hope of heavenly rewards and the fear of future punishments for wrong-doing may have actually less effect upon conduct than is sometimes assumed, still the sudden loss of a long-established faith of this kind would

undoubtedly have some effect upon conduct and morality, with possibly serious social consequences, at any rate for a time.

It would seem, therefore, that any philosophy of mind which should establish the absolute worth and dignity of the soul without reference to the doctrine of survival would have a high ethical value. Plato, in his beautiful dialogue called the *Phædo*, attempted to establish the truth of immortality upon philosophic grounds. In many passages in his writings the immortality of the soul is hardly to be distinguished from its divinity. The extremely exalted position which Plato ascribes to the soul, with its vision of the absolute, its kinship with God, its longing for immortality, is what glorifies his philosophy of mind, rather than his tales about the soul's preëxistence and its wanderings in a life hereafter.

As I have tried to point out in this chapter and in preceding chapters, we are led to the conclusion that the soul of man is an achievement, crowning the development of life which extends through hundreds of millions of years. We may believe that there was a primeval "interest" in just this final product, a primordial "effort" to attain to this "one far-off divine event." The soul is thus a *value* — an "absolute" value, striven for and eventually gained. It is Nature's perfect work. If there are, indeed, higher values, such as truth, justice, beauty, love, yet the soul in a way is greater than these, since it recognizes them as values and strives for them.

Thus the word *immortal*, which means that which has a beginning and no end, is hardly the word to use in speaking of the soul; nor the word *everlasting*, which means that which has neither beginning nor end. We seem to need some word suggesting ideal worth and enduring value. Possibly the word *eternal* might without too great violence be used in this sense — so that we could say of the soul that it is eternal.

This evaluation of the soul is independent of the question of survival — a question which would have to be approached by other avenues and after a careful study of the relation of the soul to the body. A brief study of this difficult problem will be made in the next chapter, from which it will appear that certain ele-

ments in that total complex which we call the soul are manifestly of an everlasting character, while others seem to be too closely bound up with the body to survive its dissolution.

In connection with this chapter read:

Ralph Barton Perry, *Present Philosophical Tendencies* (Longmans, Green and Company), chap. XII, "A Realistic Theory of Mind."

Edwin B. Holt, *The Freudian Wish* (Henry Holt and Company), chaps. I, II.

Further references:

John Laird, *Problems of the Self.* (The Macmillan Company.)

Boyd H. Bode, "Consciousness and Psychology," in *Creative Intelligence.* (Henry Holt and Company.)

C. S. Sherrington, *The Integrative Action of the Nervous System.* (Charles Scribner's Sons.)

Bertrand Russell, *The Analysis of Mind.* (George Allen and Unwin, Ltd.)

DeWitt H. Parker, *The Self and Nature.* (Harvard University Press.)

Joseph Alexander Leighton, *Man and the Cosmos.* (D. Appleton and Company), Book IV.

William James, *Essays in Radical Empiricism.* (Longmans, Green and Company), chap. I, "Does Consciousness Exist?"

Bernard Bosanquet, *The Value and Destiny of the Individual.* (The Macmillan Company.)

Josiah Royce, *The World and the Individual.* (The Macmillan Company) second series, lectures VI, VII.

Giovanni Gentile, *Theory of Mind as Pure Act.* Translated by H. Wildon Carr. (The Macmillan Company.)

J. M. E. McTaggart, *Human Immortality and Pre-existence.* (Longmans, Green and Company.)

CHAPTER XVIII

MIND AND BODY

The mind-body problem is almost as old as the history of philosophy, but it did not become critical until the time of Descartes in the seventeenth century. Since then it has caused great anguish among both philosophers and psychologists and is one of the "seven world-riddles," which have been said to be incapable of solution.[1] The problem is, indeed, vexatious, but possibly may be greatly simplified if the view of the mind which we have developed in the last chapter, namely, as a value achieved in the process of creative evolution, should turn out to be true.

Historical

But first we must review the history of the problem and the several classical solutions. We need only recall these solutions here, for we have referred to them in earlier chapters when we were studying theories of reality and the history of the theories of the mind. We recall Descartes' hard-and-fast distinction between thought and extension, or mind and body, and we remember the difficulties that Dualism has always had in accounting for the interaction of mind and body, or mind and brain. That they do interact seems to be a fact of daily or even momentary experience. Constantly the mind acts upon the body, initiating movements of the limbs, regulating them, inhibiting them, stilling the rapid beating of the heart, controlling the expression of the eyes, modulating the tones of the voice; even diseases of many kinds may be either caused or cured by mental suggestion. Equally evident, as it appears, is the action of the body on the mind. Coffee stimulates, tobacco soothes, alcohol stupefies, drugs narcotize, labor fatigues, indigestible foods cause fantastic dreams, secretions of the endocrine glands or the lack of them

[1] Émil du Bois-Reymond, *Ueber die Grenzen des Naturerkennens* and *Die Sieben Welträthsel.*

may result in strange psychoses; while even the simplest sensation is caused by the stimulation of some sensory nerve. But how does all this happen?

The desperate character of the problem of the connection of body and mind can be understood when we recall that a school of philosophers called the Occasionalists, following Descartes in the seventeenth century, actually held that mind and body do not interact, but that the action of either one is the "occasion" of divine interference to effect the corresponding change in the other. I *will* to raise my arm; God raises it. Hardly less extravagant was Leibniz' solution of the problem, namely, that of preëstablished harmony. That Monad which we call the mind does not act upon those Monads which compose the body, but the apparent harmony between them is a harmony preëstablished from the beginning by the perfection of the divine creation.

Interactionism, nevertheless, is a possible solution of the mind-body relation, having advocates at the present time fully able to defend it. This theory boldly affirms the duality of mind and body in the human personality and declares that they act one upon the other. The difficulty so often urged against this view arising from the law of conservation of energy is perhaps not so serious as it seems;[1] nor is the other objection, that it is "inconceivable" that two wholly unlike things, such as mind and body, could interact. The trouble arises, not in the possibility of interaction, but in the probability of there being two things to interact. It is possible to think in a wholly different way about mind than as a substance in the body or as a series of processes "parallel" with bodily processes. To-day we think rather of an *organism* that *acts*, and of mind as the organization of certain distinctive kinds of activities peculiar to man and the higher animals. Certain types of "action-systems" we call mental. Hence at present we do not need to labor over the problem of interaction; what we have to do is to ask whether there is any necessity for interaction of any kind.

Next, we recall the various *Double-aspect Theories*, originated by Spinoza and held in one form or another by many modern

[1] See above, pp. 214–15.

psychologists. These attempt to get rid of the mind-body problem by denying that there are two realities at all, affirming that mind and body are merely two aspects or phases of the same reality.

Sometimes this is called the *Identity Hypothesis*,[1] since it denies the metaphysical duality of mind and body and affirms their identity. Closely associated with this view is that of *Psycho-physical Parallelism*. The latter, however, as commonly held in psychology, is not strictly a theory of the relation of mind and body, but the mere assertion of the apparent fact of their invariable association. It is said that there is no psychosis without neurosis; that there are certain brain processes accompanying all psychical processes; that the latter are just as real as the former and the former just as real as the latter; but no causal connection between the two is assumed, the relation being one of mere concomitance in time.[2]

Now, of course, such a *mere* parallelism could be only a working basis for a psychologist who sees in mental processes a series of facts and in brain processes another series of facts, and who, being unable to understand the relation between them, is content merely to describe and study each series by itself and to note the association in time between them. But it is evident that, if there be such a parallelism, no one could doubt that there must be *some* explanation of this relation; so that any psychologist in his philosophical moods must refer the observed parallelism back either to interaction, or to preëstablished harmony, or to the identity hypothesis, or to some materialistic or idealistic theory. Psycho-physical parallelism, therefore, although we may refer to it for convenience under the double-aspect view, is really no theory of the mind-body problem at all; it merely sidesteps the difficulty. Spinoza's double-aspect theory itself, when examined, turns out to be a solution in words only, not in fact; for the duality remains just the same after calling mind and body two "attributes" of one substance, since Spinoza defines attribute as that which intellect sees in substance as constituting its essence.

[1] See the clear statement in Höffding's *Outlines of Psychology*, pp. 64 ff.
[2] See McDougall's *Body and Mind*, p. 131.

So there seems to be an "essential" difference between the two after all. Descartes attempted to mediate between mind and body by introducing the mythical "animal spirits"; so Spinoza attempted to mediate by means of a mythical *substance*. The double-aspect view thus seems to be only a verbal solution of the problem.

Next, we recall a third possible solution of the mind-body problem, namely, that of the materialistic schools, sometimes called *Epiphenomenalism*. This attempts to get rid of the whole mind-body problem by changing the dualism into a monism and affirming that the body is the only reality in the case; what we call mind being an epiphenomenon, a kind of functionless attendant upon certain forms of cerebral activity — a sort of shadow thrown by the body. Some of the difficulties in this theory have been pointed out in a preceding chapter.[1] Its weakness does not lie so much in its denial of psycho-physical dualism as in its denial of the *efficacy* of mind and in its claim that *reality* is found in certain *elementary* things, such as material atoms and their motions, and in its insistence upon the prerogative character of the two sciences, physics and chemistry.

Finally, we recall a fourth standard solution of the mind-body problem, which goes by the general name of *Idealism*, or, specifically, in this case, *Psychical Monism*. Like materialistic Monism it gets rid of the dualism of mind and body by denying the reality of one of the factors, but here it is the body whose reality is brought into question. Mind, or consciousness, is evidently something very real — indeed, the only reality in the world. The body is the mind's manifestation to other observers, a kind of externalization or phenomenon of mind. In this case the mind is the reality, and the body, the shadow.

The strength of this important theory rests upon the felt priority of the mind over the body. But we should have to distinguish between an epistemological priority, a priority of value, and a mere priority in time. It would seem to be only the second which would admit of logical defense. Hence the theory of Psychical Monism often takes the form of Panpsychism. Go back

[1] See above, chap. XIII and p. 270.

in time as far as you please to the simplest organism or to the molecule or atom. The "essence," the real stuff of things, is mind-stuff; what we call its physical aspect, its outer form, is just phenomenon or appearance.

However, it seems to me that Idealism gets its strongest support, not in the denial of the independent reality of the physical world, nor in the claim that the latter is mere appearance, but in its insistence on the significance and reality and transcendental value of the mental life when it appears. In other words, this idealistic solution of the mind-body problem is purchased at too great a price. The physical organism may be a stepping-stone to the "higher" reality of mind, or it may be a sort of "obstruction" to the upward striving of spiritual powers, but at all events it is something wholly real.

If, then, each of the four of the classical "solutions" of the mind-body problem presents almost insuperable difficulties, shall we just make our "ignoramus" or even our "ignorabimus" confession and resign the search, taking refuge in a kind of agnosticism? Such resignation would not harmonize with the spirit of philosophy; we must continue the search.

The Emergent Theory

Lately a new view of the mind-body relation has been proposed, called the *Emergent Theory*, which is at least an interesting venture. It is closely associated with Aristotle's doctrine that mind is the realization or fruition of the body. If we may accept this view, it is with a decided feeling of relief or even of emancipation that we discover that the new conception of mind sets us free from all the old so-called "solutions" of the mind-body problem, from Interactionism, from Parallelism, from Epiphenomenalism, from the Double-aspect Theory, from Subjectivism, and from Materialism; all these "isms" would be superseded. So also would be the Expression Theory and the Transmission Theory.[1]

[1] James thought it might be possible that the whole world may be a "mere surface-veil of phenomena hiding and keeping back the world of genuine realities," and that this opaque veil might at certain times and places become thin and transparent, letting through gleams from the world of higher reality. Then

Mind and body do not interact, as Interactionism and Dualism teach. The mind is not a form of the mechanical interplay of atoms, as Materialism teaches. The body is not a phenomenon or appearance or externalization of mind, as Idealism teaches. Mind and body are not parallel, as Psycho-physical Parallelism teaches. Neither are they two sides or aspects of the same reality, as the Double-aspect Theory teaches. You cannot represent the relation of mind and body by any system of parallel lines, whether merely parallel, interconnected, or correlated with a third line, nor by two lines one of which is the shadow of the other. Mind is something which the body achieves, or which nature achieves by means of the body. If you must have a diagram, the ladder will be better than the parallel bars. When nature achieves the molecule, the atom ceases to be the thing of primary importance, worth, or reality. When nature achieves the cell, the molecule is eclipsed. When the organism is achieved, the cell is eclipsed. When mind is achieved, the body is eclipsed. Mind is a new reality, gained, achieved, won; it is, in Aristotelian phrase, the form of the body.

Evidently, if we want a name for this new notion of the relation of mind to body, we may call it the *Emergent Theory*.[1] Mind emerges from the body. The theory of levels would take the place of Parallelism, Interactionism, and the Double-aspect

let it be assumed that the human brain is such a thin and half-transparent place in the veil. In that case the life of souls might reveal itself through the human brain, which thus transmits messages, so to speak, from the world of spirit. Something like this was James's transmission theory, which I think he put forward only as a possibility worthy of further consideration. See his *Human Immortality*, p. 15 ff.

Bergson's theory is somewhat similar. He regards mind or consciousness as a real independent form of being, the consciousness of each individual forming a part of a vast cosmic sea of consciousness, focussed, as it were, in individual organisms and having its individuality determined by the form of the physical organization. The brain is thus a mechanism transmitting something of this cosmic conscious stream and making it effective in the world of matter.

For the Expression Theory of the relation of mind and body, see DeWitt H. Parker, *The Self and Nature*, chap. IV, "The Relation between Mind and Body."

[1] S. Alexander, who has made the Emergent Theory familiar to us, says that Lloyd Morgan and George Henry Lewes had previously used the term. Compare his *Space, Time, and Deity*, vol. II, p. 14. Morgan, in his recent book, *Emergent Evolution*, has applied the principle of emergence to the whole evolutionary movement.

view. It is hard to say which of these theories is the most unsatisfactory, and the escape from them would be wholesome. All the dualistic theories are unconvincing. There is no magic about the number two. Nature having achieved two, goes on to three and four. The monistic theories are little better, although, if mind be the supreme reality, there is a sense of the word *reality* which admits of a monistic interpretation, a monism of value, perhaps. Pluralistic world views seem here to be more promising; mind is real, body is real, and so are many other things.

But, some reader will say, the mind-body problem cannot be disposed of so easily — in this high-handed manner. Mental processes seem to be correlated with bodily processes. With every mental image, every sensation or perception, some neural process is correlated. In answer to this it may be said that, according to the Emergent Theory, there *is* no correlation, there is no parallelism, there is no double-aspect. It is rather a case of different levels of reality. What we really have is a series of vital processes, which, when integrated or organized, exhibit capacities that we call *mental* or *psychical*. When they reach the point of attaining to that kind of activity which we call *intelligent control*, we no longer speak of them as vital or neural processes, but as psychical; we are up on a new level, among new realities, in a new atmosphere, dealing with new things, having their own laws and peculiarities. Mind has emerged from matter; the spiritual has emerged from the physical. After long centuries of misuse, the word *spirit* gains a definite and profitable meaning; it means the level of the psychical as viewed from the standpoint of value.

This solution of the mind-body problem seems too simple and easy to be true. There must be some hitch in it somewhere, else it would have been adopted long ago. It was, to be sure, accepted by Aristotle, but why was it ever given up? Perhaps it was the influence of Descartes and his atomic theory of the soul as a substance inhabiting the body that has led us away from the Aristotelian doctrine of the soul as the *form*, or entelechy, or realization of the body.

Limitations of the Emergent Theory

In truth, however, the Emergent Theory does encounter some difficulties, and should not be accepted without careful inquiry. The first thing that we must notice is that the mind, as we have learned in the last chapter, is very complex, and includes more than that sum or organization of mental capacities which goes to make up either adaptive behavior or creative intelligence. If we use the word *mind* in its narrower and simpler meaning as creative intelligence, I see no reason for refusing to adopt the Emergent Theory; it emancipates us from much mystery and confusion. But what about that elusive thing we call *consciousness*, and what about those primordial things which we call *conation*, *will*, *impulse*, *instinct*, the springs of conduct and behavior?

I think all this goes to show that the old mind-body problem was a kind of pseudo-problem. It considered the mind as a simple spiritual essence or thing which had to be got into some kind of definite relation to the body. Consciousness, for instance, is not an entity standing over against the body which must find its relation to the body; it is itself a relation between the perceiving organism and the thing perceived, or in its higher form it is a complex relationship which makes a connected story of all the elements of our mental life.

If, then, consciousness is to be kept distinct from thought, intelligence, and creative activity, and is to be defined in its simplest sense as *awareness*, and in its fuller sense as that peculiar kind of relationship or *togetherness* among the various elements of our experience which goes to make them a connected story, then we see that it becomes rather meaningless to ask about the connection between consciousness and the body. When we do so, we are still thinking of consciousness in the old way as some unitary or substantial thing which could interact with the body or be parallel with it or be another aspect of it. This becomes very clear when we take consciousness in its simplest form as *awareness*. Suppose we should say that the wild flower is in a rudimentary way "aware" of the sunshine toward which it bends? Would it not then be a rather meaningless question to ask about the relation of the awareness to the "body" of the

flower? The awareness is itself a relation of the flower to something else. Even the Emergent Theory would not apply here, although we might say that consciousness, certainly in the higher sense of self-consciousness, is something which *arises* in the course of evolution.

And then there is that third class of elements belonging to the total thing which we call the mind, namely, the conative tendencies, or impulsive strivings, or biological interests — how are these connected with the body? Here again we see how complicated, if not misleading, the mind-body problem is; and here again we see that it is better to look at it from the evolutionary point of view rather than from that of parallelism or interaction, or the double-aspect. The relationship here is evidently not the same as in the case of consciousness, nor is it the same as in the case of thought, behavior, and intelligence; for the conative tendencies are the profound springs of our mental life. Perhaps mind in the sense of intelligence is the *instrument* of these deep conative energies. The Pragmatists tell us that thought and intelligence are instrumental; they are instruments for environmental control; they enable an organism to deal with a new and perplexing situation. But who or what is it that is using intelligence as an instrument for control? Evidently it is the biological interests that are served in this way. It would be possible therefore to think of the brain, and indeed also the muscles and bones and many other parts of the body, as well as the peculiar mental powers which emerge from all this organization, as the instruments of the biological interests. In that case a new form of the instrumental theory would appear as the solution of that part of the mind-body problem relating to the conative tendencies or the biological interests.

To be sure, those who prefer a naturalistic or materialistic interpretation of everything would, no doubt, prefer to say that the vital strivings, the conative tendencies, emerge as a result of organization of simple physical and chemical elements. But our present state of knowledge does not permit us to hold that the conative tendencies emerge from the organization of material units. The reverse seems to be more probable, as we

have seen in the fuller discussion in the preceding chapter. If there is anything that we *must* think of as original and primitive and primordial in the world, it would seem to be something which we may call *effort* or *impulse*, rather than *matter* or *body*. Bergson believes that inert matter represents the inversion or interruption of life, reality having its form in the original impetus, "the internal push that has carried life, by more and more complex forms, to higher and higher destinies." [1]

In connection with this chapter read:

Friedrich Paulsen, *Introduction to Philosophy* (Henry Holt and Company), pp. 128–44.

C. Lloyd Morgan, *Emergent Evolution* (Henry Holt and Company), lecture II, "Mental and Non-Mental."

Further references:

William McDougall, *Body and Mind.* (The Macmillan Company.)

R. W. Sellars, *Evolutionary Naturalism* (The Open Court Publishing Company), chap. XIV. *The Essentials of Philosophy* (The Macmillan Company), chap. XXII.

H. Bergson, *Matter and Memory.* (The Macmillan Company.)

S. Alexander, *Space, Time, and Deity* (The Macmillan Company), vol. II, book III, chap. I.

C. A. Strong, *Why the Mind Has a Body.* (The Macmillan Company.)

Descartes, *Meditations.* Especially I to IV.

Spinoza, *Ethics*, book I.

[1] *Creative Evolution*, p. 102.

CHAPTER XIX

FREEDOM

The new interest in freedom

A NEW interest has been added to the ancient controversy about the Freedom of the Will owing to the striking stand taken by Bergson and James. I shall reserve further mention of this new philosophy of contingency till later in the chapter, meanwhile trying to remove some of the obscurity which has unnecessarily attached to the problem. Is it a problem or a puzzle? Some one has said that the difference between a puzzle and a problem is that the latter yields to reflective thought. Will reflective thought unravel the difficulties of this old problem? As a student I recall sitting up half a night wrangling over it with my roommate. Possibly a careful definition of terms would have removed part of the trouble.

What is it to be free?

In its simplest meaning *freedom* refers to the absence of compulsion or restraint or constraint by any external power. The slave is not free because other men constrain him. A caged lion is not free because the bars restrain him. The lion released from his cage and back in his jungle is free to live out the life of his kind, and this is what freedom means for him. The emancipated slave, with the privilege of mingling on equal terms with other men, of working for himself, of cultivating his own land, and disposing of the products of his labor as he sees fit, is free.

Of freedom in this sense the man and the woman of the twentieth century have a large measure. Unenslaved, unfettered, and unrestrained, they are free to work out their desired ends. Our government is founded on the principle of individual freedom. Successively we have sought and gained emancipation of the individual from autocratic government, emancipation of the negro from slavery, emancipation of women from inequalities of

sex, emancipation of men and women from foolish restrictive traditions and conventions, and are now demanding and getting emancipation of labor from capitalistic oppression. One wonders sometimes whether our mania for freedom may not blind us to the necessity for wholesome discipline. At any rate, we seem to have in these modern days all the freedom that we can safely use — perhaps more.

Determinism

But, you reply, in the free-will discussion this is not what we mean by freedom. The question is whether a person's actions are free in the sense that they are not necessitated, determined, made certain and predictable by antecedent factors in the total situation. Are not human actions, like everything else in nature, under the reign of natural law, which rigidly determines whatever happens in the world, including human behavior? Are we not all caught in the clutches of the law of cause and effect, so that every act of ours is caused by some preceding event or condition? Can the human will escape the chains of mechanism which prevail throughout nature?

This is the familiar argument of the determinist. Human acts like all other events in nature obey nature's laws. They are strictly deducible from other antecedent events. All transitions are *necessary* transitions. It would be impossible to conceive of an event, even a human act of choice, as being *uncaused.* Human volitions are strictly determined by preceding volitions, by acquired habits, traditions, customs, and education. An all-seeing eye could predict with absolute certainty the motives, actions, and behavior of an animal or man. A man's character is determined by his heredity, his social environment, his circumstances, and his education. The feeling of freedom is an illusion, arising from the fact that we are unconscious of the causes which determine our conduct. Statistics also show that human acts are quite uniform and to an outside observer have all the earmarks of determined quantities. Marriage, divorce, and suicides vary rather uniformly with economic, social, and moral conditions.

This line of reasoning seems very impressive. In the closing years of the nineteenth century it found general acceptance — especially among those who had grown accustomed to hold the physical sciences in a certain veneration. The advent of Darwinism greatly strengthened the position of the determinist. Man is not above nature, but a mere product of it. His humble origin has been discovered. He is only a highly developed form of the simplest animal life. There is no break in nature — no place where its laws cease to operate. The leaves of the tree unfold in accordance with these laws. In the same way the child eats, sleeps, grows, thinks, and chooses, all in conformity with natural law. Thus, the theory known as *Determinism* came to be widely accepted, not only among physical scientists, but among moralists, sociologists, and even theologians. It was said that there is nothing in determinism in any way repulsive either to morals or religion. It is consistent with good conduct, good citizenship, and human responsibility. Evil would still be evil and good would still be good, and we should be responsible for our conduct just the same. It would be useless for the offender to go before the judge and say: "Do not punish me. I am not responsible for my actions; they are fatally determined for me by the laws of nature. My acts of will are determined by my motives." The judge would reply: "Very well, we will give you some new motives for good behavior. Thirty days. Next case."

Jurisprudence and good government find nothing objectionable in determinism. Every man with average intelligence, who can understand the difference between right and wrong, who is capable of deliberation, and can weigh the worth to himself or to society of different courses of action, is held responsible for his deeds, and frankly recognizes his own responsibility. If his actions are determined by his former choices, by his appetites and passions, by his habits and traditions, these are all parts of himself, and so thus far his determination is self-determination; that is, it is freedom. Thus it has come about that determinism has been and still is accepted by many of the most careful, scholarly, and conservative writers both in morals and in philosophy. A certain truth in the position of the determinist, indeed, con-

tains the only assurance that education will be effective and character dependable.

For this is what we mean by dependability. We mean that a man's education, his family and social traditions, his respect for the laws of the state, and for the rules of honesty and integrity will be powerful factors in the control of his conduct. We mean that we can count on the man. We know what he will do. We can trust him. Otherwise, character would count for nothing. If free-will meant the absence of this kind of control, no one would wish to have it; certainly no one would wish his child or his friend to have it. In time of need your friend might or might not come to your aid. Your trusted clerk might or might not turn over the proceeds of a sale. Your mother might or might not minister to you in sickness. Commercial insurance of bank clerks would be at an end. Chaos would rule in society and caprice in personal conduct.

Thus the theory of determinism seems to hold its ground against all comers. There appears to be no escape from its rigid conclusions. Of course, the free-willist, striving to retain his belief in freedom, will reply: "It is true that a person is influenced in his choices by his education, his traditions, and by social customs; but he is not determined by them. He weighs and deliberates, of course; but when he chooses, his choice is free. He is conscious of his own freedom. At the very least he can freely turn his *attention* to a given course of action, and attention, as is known, is the precursor of actual volition — and attention is free." But the determinist replies that attention, like any other mental process, flows inevitably from its antecedent mental processes, being linked thereto with the fatal linkage of causality.

Weaknesses in the logical basis of determinism

Nevertheless, the case for determinism is not so clear as might appear from the usual popular statements of it. The argument as set forth above is full of loose generalizations, which the careful student of science would hesitate to endorse. One should not take *too* seriously such expressions as the *reign of law* and *causal necessity*. The laws of nature do not "reign" and they do not

"determine" anything. They are not compelling forces, nor *forces* of any kind. They are simply formulæ summarizing a certain amount of experience concerning uniformities in nature. Science knows nothing of *necessity*, or *absolute certainty*, in the behavior of phenomena — only uniformity. When certain sequences are uniformly observed in nature, there is a reasonable expectation that the given antecedents, when they occur again, will be followed by the given consequents, but there is no necessity in the case. There seems to be sufficient uniformity in nature to enable us to predict the future with a high degree of certainty at the level of the mechanical sciences, with varying degrees of certainty in the organic sciences, and with some degree of certainty in human affairs.

A more careful analysis of the notion of cause — such, for instance, as that made by Bertrand Russell — shows that we must get rid of any element of *compulsion* in it, and that the uniformity found in nature is in nowise inconsistent with freedom.

Freedom, in short, in any valuable sense, demands only that our volitions shall be, as they are, the result of our own desires, not of an outside force compelling us to will what we would rather not will. Everything else is confusion of thought, due to the feeling that knowledge *compels* the happening of what it knows when this is future, though it is at once obvious that knowledge has no such power in regard to the past. Free will, therefore, is true in the only form which is important; and the desire for other forms is a mere effect of insufficient analysis.[1]

Another method of approach

But now there is another way of approach to the whole subject of freedom, somewhat more biological and evolutionary. We have to ask the question whether there may not be in nature and in mind something which we may call *real spontaneity*. If so, it would not, of course, follow that every human volition is free; it would only follow that the possibility of real freedom exists. Evidences are accumulating which point to the presence of spontaneity rather than uniformity at certain stages of the evolutionary process. Nature seems to escape more and

[1] Bertrand Russell, *Scientific Method in Philosophy* (Open Court Publishing Company), p. 236.

more from the mechanistic treadmill and to blossom out into marvelous novelties, such as life and mind and morality and conscious coöperation. Organic life is characterized by a kind of behavior which the word *spontaneity* defines more accurately than the phrase *mechanical necessity*. At the organic level, factors enter upon the scene which we speak of as *interests*. The appetency, urgency, insurgency of life, its character of craving, desire, and striving, are no longer adequately described in the vocabulary of the physical sciences, where something like the mere impact of physical particles makes us think in terms of compulsion and necessity. Living organisms do not seem to be *driven* along, like the wings of a waterwheel by the blows of the water. They seem rather to be seeking something, needing something, desiring something. There is the forward, not the backward look. In organic nature the "conative bow is bent ever toward the future." The phraseology of determinism is drawn from the mechanical sciences and is only awkwardly adapted to a vital situation.

A recent writer calls attention to the fact that "at the autumnal climax of productivity in lakes, there may be to the square yard seven thousand millions of a well-known Diatom, *Melosira varians*, so that the water is like a living soup."

But in addition to the abundance of life — alike of individualities and of individuals — there is the quality of insurgence. Living creatures press up against all barriers; they fill every possible niche all the world over; they show that Nature abhors a vacuum. We find animals among the snow on Monte Rosa at a height of over ten thousand feet; we dredge them from the floor of the sea, from those great "deeps" of over six miles where Mount Everest would be much more than engulfed. It is hard to say what difficulties living creatures may not conquer or circumvent. . . . When we consider the filling of every niche, the finding of homes in extraordinary places, the mastery of difficult conditions, the plasticity that adjusts to out-of-the-way exigencies, the circumvention of space (as in migration), and the conquest of time (as in hibernation), we begin to get an impression of the insurgence of life. We see life persistent and intrusive — spreading everywhere, insinuating itself, adapting itself, resisting everything, defying everything, surviving everything![1]

[1] Quoted by permission from *The Outline of Science* (vol. III, p. 708), edited by J. Arthur Thomson. (Four volumes. New York: G. P. Putnam's Sons, 1922.)

In fact, throughout the whole evolutionary movement nature seems to be struggling to free itself from the mechanistic chains, trying like a growing child to acquire a will of its own. Evolution, as we have seen in a former chapter, has been described as a long struggle for freedom. When living organisms reach the stage represented by the human mind, vital interests become conscious. Behavior is deliberately adapted to the realization of definite ends. The human mind escapes from the control of circumstances — indeed, circumstances themselves are controlled in order to realize purposes. The value of different possible courses of conduct is *appraised*, and means are consciously *chosen* to gain the *higher* values. To a situation like this the old phraseology of determinism is still less adapted than to the situation represented by organic life in its lower stages. The language of freedom, while not wholly applicable, seems here more appropriate.

Indeed, it is just this spontaneity of nature which accounts for evolution itself. In organic evolution nature seems to get a new "thought" every little while, and syntheses take place from which new wonders emerge. Relations arise which do not seem to be well expressed by the phrase *cause and effect;* it seems more like a case of the emergence of new qualities. The new values do not seem to be "determined"; they seem to be "realized." The movements of a machine are determined. Supply oil and fuel, and mill-like the machine goes on until worn out. The language of determinism fits it perfectly; but such language is ill-adapted to describe the behavior of organisms, and is wholly inadequate to describe the conduct of intelligent beings. Here means and end take the place of cause and effect. In adaptive behavior the individual is engaged in controlling a hostile environment in order to meet a situation and attain a desired end. Incompatible factors in some perplexing situation issue in experimentation and successful adaptation. Future consequences are dynamic factors in the course of action. If we must choose between the words *free* and *determined* to describe such action, the word *free* is surely to be preferred.

It seems thus that the old dispute about freedom and deter-

minism has become antiquated in this newer way of regarding the behavior of living organisms. Determinism is not disproved; it is simply transcended. Its language does not fit the situation. Neither are such words as *indeterminism* or *libertarianism* particularly happy. The word *freedom* is better, but it has been brought over from another realm of thought and is not just the word we want. Let the traditional Martian visitor come to earth and say to man: "Are you free?" "No!" would be the answer, "we are *hampered.*" "Are all your movements controlled and determined?" "Nonsense, No! We are striving for certain ends and we are gaining them with difficulty, but on the whole we are successful."

Thus, in the end it comes about that as a simple description of the actual situation in respect to human conduct, while the language of freedom is inadequate, that of determinism is obsolete. We seem to need a new set of terms all around. It is probable that there would never have been any controversy over the freedom of the will had not confusion arisen about the question of moral responsibility. When theologians taught the doctrine of retributive rather than natural punishments (realizing as they did the heinousness of sin and its fearful consequences), they began to raise the question whether a person could be justly punished when his conduct is so intimately connected with circumstances of heredity, education, and environment. The answer to this should have been that punishments are not retributive, but natural or disciplinary. In this way, having discovered that people are in any case responsible for their conduct, the psychological problem of freedom could have been wholly disassociated from the moral problem; and then it would have been seen that terms such as *freedom* and *determinism* are not particularly happy ones in describing human conduct. What we have is a striving organism, subject to influences on every side, accepting or resisting them, threading its way through them, battling against them, pressing ever on.

The new philosophy of contingency

It was something of a shock to the complacent thought of the

closing century, comfortably resigning itself to a philosophy of determinism, when James and Bergson came out bluntly in favor of freedom.[1] James startled his generation by his vigorous defense of freedom at a time when freedom seemed to conflict with every scientific canon. Why, he asks, should we stumble over a certain law of causality, if it contradicts an immediate fact of experience, such as our consciousness of freedom and the fact of regret for wrong-doing. The law of causality is "an altar to an unknown God." The world is not so closely and fatally articulated as determinism supposes. It is not a necessary presupposition "that those parts of the Universe already laid down absolutely appoint and decree what the other parts shall be." It is not certain that "the future has no ambiguous possibilities hidden in its womb." It may well be that possibilities are in excess of actualities and that the parts of the Universe have a certain amount of "loose play." There is room in the world, so James believes, for novelty, contingency, activity, and real freedom. There are discontinuities as well as continuities.

Our sense of "freedom" supposes that some things at least are decided here and now, that the passing moment may contain some novelty, be an original starting-point of events, and not merely transmit a push from elsewhere. We imagine that in some respects at least the future may not be co-implicated with the past, but may be really addable to it, and indeed addable in one shape *or* another, so that the next turn in events can at any given moment genuinely be ambiguous, i.e., possibly this, but also possibly that. . . .

To some extent the world *seems* genuinely additive: it may really be so. We cannot explain conceptually *how* genuine novelties can come; but if one did come we could experience *that* it came. We do, in fact, experience perceptual novelties all the while. Our perceptual experience overlaps our conceptual reason: the *that* transcends the *why*. So the common-sense view of life, as something really dramatic, with work done, and things decided here and now, is acceptable to pluralism. "Free will" means nothing but real novelty; so pluralism accepts the notion of free will.[2]

The world is not quite so orderly, so continuous, so inert, so

[1] A clear account of these new studies may be found in Gertrude Carman Bussey's brief monograph entitled *Typical Recent Conceptions of Freedom.*

[2] William James, *Some Problems of Philosophy* (Longmans, Green and Company), pp. 139–41.

carefully predetermined, so absolutely single, as we used to think. There is room in it even for irrelevances, and for real possibilities, real beginnings, real catastrophes, real decisions, and real regrets. It is, indeed, the fact of regret — genuine and lasting regret — which leads James unequivocally to espouse the cause of indeterminism.

> What interest, zest, or excitement can there be in achieving the right way, unless we are enabled to feel that the wrong way is also a possible and a natural way, — nay, more, a menacing and an imminent way? And what sense can there be in condemning ourselves for taking the wrong way, unless we need have done nothing of the sort, unless the right way was open to us as well? I cannot understand the willingness to act, no matter how we feel, without the belief that acts are really good and bad. I cannot understand the belief that an act is bad, without regret at its happening. I cannot understand regret without the admission of real, genuine possibilities in the world. Only *then* is it other than a mockery to feel, after we have failed to do our best, that an irreparable opportunity is gone from the universe, the loss of which it must forever after mourn.[1]

Even chance, if we insist on using the word, is preferable to destiny. The "frightful" associations connected with the word *chance* have prejudiced people against indeterminism as much as the eulogistic associations of the word *freedom* have prejudiced them in favor of it. James thus sounds the note of optimism and of possible victory. With his pluralistic and restless Universe, his real possibilities and real choices, his real good and real evil, he offers to many a gospel of hope and courage. To others, lovers of order and rationality and unity, his disorderly and chaotic Universe brings fear and dismay. As he frankly says, it is to some extent a matter of temperament. All that he wishes to show is that there is a place in the world for freedom, if for ethical or practical or purely empirical reasons one prefers this belief. James's pluralistic philosophy does not, of course, prove that human volitions are free, but only that the Universe is of such a kind that there is room in it for freedom,[2] so that if

[1] William James, *The Will to Believe* (Longmans, Green and Company), pp. 175 and 176.

[2] See good discussion in Perry's *Present Tendencies in Philosophy*, chap. XI, secs. 5, 6, and 7.

one believes in freedom he need not be frightened away by the too plausible arguments of the determinists.

James himself accepts freedom as a fact on ethical grounds and on the grounds of immediate experience. Hitherto we have been so zealous to show the logical coherence of the world that we have forgotten that it must also have moral coherence. The moral struggle must be a genuine one, not a sham; and it could not be genuine without the postulate of freedom. It was James's peculiar mission to try to do justice to facts of all kinds from all departments of life and experience.

His knowledge and appreciation of human nature were such as to make it impossible for him ever to assent to the view that all human experience is describable in terms of the motion of molecules. His moral vigor, moreover, led him to demand the recognition of the genuineness of human struggle. Again and again he insisted that life loses its dramatic quality and its significance if human activity has no part to play here and now in the destiny of the universe.[1]

Bergson's view

Bergson, like James, accepts unreservedly the freedom of the will, but now, in place of James's fearless and sometimes perhaps a little reckless affirmation of contingency in the world at large, we have a carefully reasoned philosophy of contingency. Freedom is involved in the very structure of reality from Bergson's point of view. The fundamental reality of the world is a "psychical life unfolding beneath the symbols which conceal it"; and *time* is the very stuff that this psychic life is made of. Time, therefore, in the sense of *duration*, is something very real to Bergson, in fact the reality of all realities; and "duration means invention, the creation of forms, the continual elaboration of the absolutely new." Freedom, therefore, is the very essence of the psychical life. Life itself *is* freedom, spontaneity, change, creation. The law of causality, which depends upon uniform sequences, can have no application here where there are no repetitions, where creative activity is ever at work, and where there can be no uniform sequences.

[1] Gertrude Carman Bussey, *Typical Recent Conceptions of Freedom* (Morey), p. 29.

When we once come to understand the nature of life and mind, the old puzzle about freedom disappears; for we see that the future is not something to be *chosen*, but something to be created. What we have is not a choice of alternatives, but a changing, growing Self. The real world to Bergson is not the geometrized and spatialized world known to the intellect, but the world of duration, consciousness, mind-energy, growth, change, and primeval impulse seen in intuition. In these profound and original depths of reality there can be no question of compulsion — only of impulsion. Here is *free creative activity*. Matter, indeed, is a kind of *obstruction* to the original creative activity. But it does not seek to impose its laws upon this activity; it has no such power. "Consciousness appears as a force seeking to insert itself in matter in order to get possession of it and turn it to its profit."

Consciousness and matter appear to us, then, as radically different forms of existence, even as antagonistic forms, which have to find a *modus vivendi*. Matter is necessity, consciousness is freedom; but though diametrically opposed to one another, life has found the way of reconciling them. This is precisely what life is, — freedom inserting itself within necessity, turning it to its profit. Life would be an impossibility were the determinism of matter so absolute as to admit no relaxation.[1] . . .

I see in the whole evolution of life on our planet a crossing of matter by a creative consciousness, and effort to set free, by force of ingenuity and invention, something which in the animal still remains imprisoned and is only finally released when we reach man.[1]

With such a philosophy as this the old problem of freedom and determinism presents little difficulty; life and freedom are almost synonymous.

When we put back our being into our will, and our will itself into the impulsion it prolongs, we understand, we feel, that reality is a perpetual growth, a creation pursued without end. Our will already performs this miracle. Every human work in which there is invention, every voluntary act in which there is freedom, every movement of an organism that manifests spontaneity, brings something new into the world.[2]

[1] Henri Bergson, *Mind-Energy, Lectures and Essays*. Translated by H. Wildon Carr (Henry Holt and Company), pp. 17–18, 23.

[2] *Creative Evolution* (Henry Holt and Company), p. 239.

Hence we see again how the old discussions have confused the issue. It is not a question of freedom and determinism, but a question of freedom and *incumbrances*. The primeval impetus, the *élan vital*, may meet with defeat, but defeat is not determination. No one claims that life may not sometimes be enslaved, that even man may not sometimes be enslaved. Too often just this has happened. But the free spirit of man still lives and slowly overcomes its conquerors, emerges as a victor, and expresses itself in art, philosophy, and science, and in free political institutions. Bergson states it somewhat differently:

> Radical therefore, also, is the difference between animal consciousness, even the most intelligent, and human consciousness. For consciousness corresponds exactly to the living being's power of choice; it is co-extensive with the fringe of possible action that surrounds the real action: consciousness is synonymous with invention and with freedom. Now, in the animal, invention is never anything but a variation on the theme of routine. Shut up in the habits of the species, it succeeds, no doubt, in enlarging them by its individual initiative; but it escapes automatism only for an instant, for just the time to create a new automatism. The gates of its prison close as soon as they are opened; by pulling at its chain it succeeds only in stretching it. With man, consciousness breaks the chain. In man, and in man alone, it sets itself free. . . .
>
> Our brain, our society, and our language are only the external and various signs of one and the same internal superiority. They tell, each after its manner, the unique, exceptional success which life has won at a given moment of its evolution. They express the difference of kind, and not only of degree, which separates man from the rest of the animal world. They let us guess that, while at the end of the vast spring-board from which life has taken its leap, all the others have stepped down, finding the cord stretched too high, man alone has cleared the obstacle.[1]

Freedom, the secret of Progress

It should not be inferred that James and Bergson are alone among modern thinkers in their affirmation of freedom. I have

[1] *Creative Evolution*, pp. 263–64 and 265. The reader will understand that Bergson is using the word *consciousness* in a different sense from that in which we have used it in the preceding chapters on the philosophy of mind. Bergson uses the word in its older and more popular meaning referring to the impulsive, creative, and selective capacities of that total thing which we call the *mind*. It is more nearly what we should call the *will*.

dwelt upon their views rather because of the prominence of these two men in the philosophy of the present, and because of the uniqueness of their positions.[1] In estimating the value of this new philosophy of contingency, it must be kept in mind that it relates to the theoretical problem regarding the possibility of freedom, whether in organic evolution or in the conduct of men. It affirms just this possibility; it does not affirm that human actions are always or even usually lawless and capricious and unpredictable. The single instance of the influence of heredity on the behavior of individuals would banish any such idea. The spirit of man certainly moves on earth ballasted with social customs and freighted with hereditary dispositions; but that it can with all this burden soar aloft is attested by the whole history of progress and even by the fact of evolution itself. Every advance in life, from the first bit of protoplasm all the long way up to human personality, seems to be a struggle to escape from mechanistic determinism and to blossom out at successive levels into new and marvelous forms and realities. In the Darwinian plan the new appears in the form of variations and mutations, and these furnish the materials for the advance of species. Even Darwin's "struggle for existence" implies freedom. Here the language of determinism seems almost grotesque. We can think of struggle as repressed or thwarted — but not "determined." Even Lucretius, after Democritus the extremist of ancient Materialists, gave to his primordial atoms a kind of spontaneity.

Terminology

In the whole discussion about the freedom of the will confusion sometimes arises because we do not understand just what is meant by the *will*. And with this comes a sense of irritation and a feeling that the whole question is one to be referred to the psychologist. But the psychologists have not helped us greatly

[1] Innumerable modern writers have taken the position of freedom, while innumerable others have written on the side of determinism. One of the best presentations of the grounds for freedom may be found in James Ward's *The Realm of Ends*, lectures XIII, XIV. Compare also the activistic philosophy of Eucken, Boyce Gibson, Boutroux, and F. C. S. Schiller.

here. Usually they ignore the subject. Often they dwell rightfully upon the direction given to our actions by our interests and desires and by our social customs and hereditary tendencies.[1]

But the psychologists make it clear, of course, that there is no special faculty or element which is called the *will*. It is merely a term which may be applied to all the "activities of control." The will is "the whole mind active." To avoid this confusion the worn-out expression *freedom of the will* should be replaced by some such expression as the *freedom of the self*, or of the person, or of the organism. Better still, would be the phrase *freedom of the soul* or *freedom of the mind*. Best of all, perhaps, as I have already hinted, would be the plan to drop the old terms and adopt a new language, as is done, for instance, in the following quotation from *one* psychologist:

> That the human mind, in its highest flights, creates new things, thinks in ways that have never been thought before, seems undeniable in face of any of the great works of genius. Those who tell us that the mere shuffling of the letters of the alphabet in a dice-box will produce a great work of literary art, or even a single perfect verse, may be speaking literal truth, if we grant them the continuation of the process through unlimited time. But the striking peculiarity of the human race is that, in the last few thousand years, it has produced such things, created such novelties, over and over again.
>
> If, then, the human mind is greatly creative in its highest forms and flights, how can we deny that it may be creative, in a small way, in the moral struggles of the common man? By a long series of such creative acts on the part of men both great and small, the moral tradition, the highest product of organic evolution, has been painfully and slowly evolved. Why should we doubt that organic evolution is a creative process and that Mind is the creative agency? We have no theory of organic evolution remotely adequate to the problem.[2]

In this brief chapter it has hardly seemed worth while to dwell on the controversial aspects of this old problem. Succinct statements of the various positions may be found in the books referred to at the end of the chapter and in the footnotes to the pages. I have tried to bring out some of the newer phases of the subject.

[1] Compare, for instance, James Rowland Angell, *Psychology*, pp. 436–37.

[2] William McDougall, *Outline of Psychology* (Charles Scribner's Sons), pp. 447–48.

The theory of determinism may be stated in such a way as to seem irrefutable. Those who love to dwell in a tidy, well-ordered, and unified world will prefer this philosophy — and they will be convinced that the law of causality applies to all material things, to all animal species, and to all human conduct; and they will define freedom as rational action or self-determination; and the feeling of freedom will be explained by our knowledge that some of the determining factors are within ourselves or products of our past decisions. Readers of this class will enjoy the scholarly treatment of the subject found in the writings of Bernard Bosanquet,[1] S. Alexander,[2] J. M. E. McTaggart,[3] and A. E. Taylor.[4]

Those, on the other hand, in whom the logical impulse is not quite so strong and the spirit of adventure stronger, those who love a wilder and more exhilarating world, a world offering hazards and opportunities for conquest and achievement, will prefer a philosophy with a more radical kind of freedom; such, for instance, as that proposed in the adventurous teachings of the Pragmatists, or in the ethical philosophy of the Personalists, or in the fearless doctrine of contingency presented by James and Bergson and Ward.

And yet I am sure that philosophical problems are not to be settled by a question of temperament, as though determinism could be true for you and freedom for me. The goal of philosophy is objective truth, although in questions such as the one now before us this goal may be difficult to attain. And so I think that the problem of freedom is not a question of temperament but rather a question of securing a terminology fitted to the real character of the problem.

There is one suggestion made by Ward which seems fruitful. He also uses the term *self-determination*, but the meaning he gives to it is something quite different from that which it usually bears. It is the kind of determination of a "determined" child, or a "determined" man. It is this which characterizes personality.

[1] *The Principle of Individuality and Value*, lecture IX.
[2] *Space, Time, and Deity*, vol. II, chap. X.
[3] *Some Dogmas of Religion*, chap. V.
[4] *Elements of Metaphysics*, book IV, chap. IV.

It implies efficient causation, self-direction, and purpose. It considers the self to be a *personal agent* and the activity which proceeds from this self to be a kind of self-expression.[1] We have seen already some reasons for believing that the whole world movement, a part of which we speak of as evolution, is a kind of *self-expression*, as though the universal Self were trying to express itself and "determined" to do so.

In connection with this chapter read:

W. G. Everett, *Moral Values* (Henry Holt and Company), chap. XII.

Gertrude Carman Bussey, *Typical Recent Conceptions of Freedom* (Press of T. Morey & Son, Greenfield, Mass.). Résumé of the views of Haeckel, James, Bergson, Ward, and Bosanquet on Freedom.

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[1] James Ward, *The Realm of Ends, or Pluralism and Theism*, pp. 277–78.

CHAPTER XX

THEORIES OF KNOWLEDGE

JOHN LOCKE, probably the most influential of the classical philosophers, relates that when he was a young man he was discussing with five or six friends gathered in his chamber certain problems of philosophy.[1] They found themselves puzzled and unable to come to any conclusion, and finally decided that they were taking the wrong course, and should first set themselves to determine the power of the human mind to deal with such problems. This was the origin of Locke's celebrated book, *An Essay Concerning the Human Understanding*, and the beginning of the long modern controversy about the theory of knowledge.

Is the human mind capable of dealing with the hard problems of philosophy? Does it possess some "faculty," such as reason or intuition, by means of which we can go beyond the facts of experience and learn of the great world of reality outside of experience, if there be such a world? Are we not limited in our knowledge to what our senses reveal and do they reveal *reality* itself or just *phenomena* or appearances? Are we, indeed, certain that there *is* any external world? May not the appearances revealed through our senses be merely the projection of our own minds — our ideas? At the very best, is our knowledge of the world anything more than a relative knowledge, depending upon the peculiar structure of our minds and bodies?

These various questions we have avoided until the present, deeming it better to adopt the method of the special sciences, taking for granted the reality of the external world as reported by the senses, and assuming the ability of the mind to know it and to think and reason about it. Perhaps in the past relatively too much attention has been given to the theory of knowledge, wrongly making it almost synonymous with philosophy itself, with the unfortunate result that important regions of truth have been neglected by preoccupied philosophers.

[1] *An Essay Concerning Human Understanding*, Introduction.

Nevertheless, we cannot avoid the question any longer, and must, therefore, in this chapter make an inquiry as to the sources and validity of human knowledge. *Epistemology* is the technical and somewhat awkward name that has been given to this branch of inquiry. It is from two Greek words, which together mean the science of knowledge. The *Theory of Knowledge* is the simpler and more commonly used term.

The two problems

Under the general head of *Theory of Knowledge* two quite distinct problems are presented. The first relates to the *source* of knowledge, and introduces us to the famous dispute between the Empiricists and the Rationalists. The second relates to the validity or truth of knowledge and introduces us to the still more famous dispute between the Realists and the Idealists. Hence we may divide this chapter into two sections.

I. The Sources of Knowledge

One of the oldest of the epistemological problems relates to the *sources* of knowledge. Each of us has a certain "store" or "body" of knowledge, such, for instance, as of the world around us, of our own minds, of mathematical principles, of right and wrong, of goodness and beauty. Hence the question arises, Where did we get this knowledge? Its truth and value may depend upon its source. We want each bit of knowledge to show its credentials.

In the history of philosophy it has been customary to say that all of our knowledge has come to us in one of three or four ways. In the traditional language of epistemology, knowledge must either be inborn (doctrine of innate ideas); or it must come from reason (rationalism); or it must come through the special senses, namely, sight, hearing, pressure, taste, smell, temperature, and strain (sensationalism or empiricism); or finally, it must come from direct insight or intuition (mysticism). To these sources of knowledge, a fifth has sometimes been added, namely, introspection, by which is gained a knowledge of our own inner life.

Sensationalism in its extreme form denies that there is any

other source of knowledge whatever than sensation; to sense-perception we can trace back *all* our store of knowledge. Sense impressions may be revived in memory, when they become ideas. Ideas may be associated and related, giving rise to such notions as those of cause and effect. An exposition of sensationalism of this kind may be found in the writings of David Hume. *Empiricism* is a term which has commonly been applied to this theory of knowledge. Strictly the term *empiricism* means that all knowledge comes from experience, and we shall see presently that experience and knowledge are much the same thing. Hence in the broader sense we must all be empiricists, but we shall certainly not all be sensationalists.

Rationalism does not deny that much of our knowledge comes from sense-perception, but affirms that some of it, perhaps the most valuable part, comes from a source transcending sense-perception, namely, from *reason*, or *thought*. Mathematics is cited as an example of such a rational science.

Finally, *Mysticism*, while not denying that the greater part of our knowledge comes from sense-perception or from reason, affirms that there is a still higher and purer source than either sensation or reason, namely, intuition,[1] or direct insight, or divining sympathy, or mystic contemplation; or simply faith and feeling.

The genetic approach

Gradually in recent years these old classifications of epistemological theories have been superseded. A more accurate psychology and a more modern logic have resulted in a shifting of the points of interest as regards the "sources" of knowledge. Knowledge is not something which comes in packages to be traced to authentic sources; ideas are not entities which can be built up into knowledge; there is no faculty of reason which guarantees a kind of divine sanctity to its utterances; and since Locke's time nobody believes in innate ideas. Innate disposi-

[1] The word *intuition* has different meanings in philosophy. Commonly, like the German word, *Anschauung*, it means direct apprehension through sense-perception. Otherwise, it means, as in the present connection, immediate insight, perhaps through some mystical faculty.

tions, tendencies, interests, ways of reacting, we have a plenty; but no ready-made knowledge.

The way to a better understanding of the theory of knowledge is through a genetic study of the subject, beginning with the attitude of the simplest living organism toward its environment. The first thing that happens is a response of some kind to a stimulus, accompanied by a simple awareness. Indeed, this is not the first thing that happens either. The first thing is the organism itself with certain new-found powers belonging only to living organisms and certain inborn interests which serve as driving forces.[1] So at the very beginning we see how meaningless a theory of sensationalism or pure empiricism would be, affirming that all knowledge comes from sensation or experience, as if in Locke's phrase the mind at birth were a blank tablet, upon which sense impressions made their record; as meaningless as the rival theory which would derive knowledge from a faculty of reason.

Thus the very simplest form of knowledge would be mere awareness, such as an organism has of an object affecting it. Very soon, however, when an organism begins to respond to a stimulus and then presently to respond specifically to a situation, the situation begins to have a meaning; it is interesting, promising, threatening, to be avoided. Thus a relation arises which may be called *acquaintance*. Then language comes with names of things and events, and abstract terms, and classes, and judgment, and reasoning.

Pursuing the subject psychologically in this way we see that there is no faculty called reason that oracularly hands down something called knowledge, as Rationalism used to teach; nor any transcendental *a priori* laws of thought which experience presupposes, as apriorism used to teach; nor, on the other hand, are there any such things as simple sensations considered as units of knowledge, which could be combined or built up into a body of knowledge. What we have rather is an organism with profound interests and propensities exploring a hostile and a friendly

[1] This will all be much clearer if the reader will turn back here and review the philosophy of mind as set forth in Chapter XVII.

world and interacting with its environment. The result is experience; and this experience may be funded, drawn upon in specific new situations, and these situations may be intelligently dealt with, controlled, mastered. Evidently it is this *funded experience* which we call knowledge, later classified, expressed in language, codified into the shorthand of scientific terms. Knowledge, therefore, is experience rationalized; that is, organized. Empiricism and Rationalism thus lay aside their historic rivalry and join friendly hands.

John Dewey and his associates have enlightened us not a little about the real nature of knowledge by studying it in its genetic stages. This is what Dewey says:

> The interaction of organism and environment, resulting in some adaptation which secures utilization of the latter, is the primary fact, the basic category. Knowledge is relegated to a derived position, secondary in origin, even if its importance, when once it is established, is overshadowing. Knowledge is not something separate and self-sufficing, but is involved in the process by which life is sustained and evolved. The senses lose their place as gateways of knowing to take their rightful place as stimuli to action. To an animal an affection of the eye or ear is not an idle piece of information about something indifferently going on in the world. It is an invitation and inducement to act in a needed way. It is a clue in behavior, a directive factor in adaptation of life in its surroundings. It is urgent not cognitive in quality. The whole controversy between empiricism and rationalism as to the intellectual worth of sensations is rendered strangely obsolete. The discussion of sensations belongs under the head of immediate stimulus and response, not under the head of knowledge. . . .
>
> The rationalist was thus right in denying that sensations as such are true elements of knowledge. But the reasons he gave for this conclusion and the consequences he drew from it were all wrong. Sensations are not parts of *any* knowledge, good or bad, superior or inferior, imperfect or complete. They are rather provocations, incitements, challenges to an act of inquiry which is to *terminate* in knowledge. They are not ways of knowing things inferior in value to reflective ways, to the ways that require thought and inference, because they are not ways of knowing at all. They are stimuli to reflection and inference. As interruptions they raise the questions: What does this shock mean? What is happening? What is the matter? How is my relation to the environment disturbed? What should be done about it? How shall I alter my course of action to meet the change that has taken place in the surroundings?

How shall I readjust my behavior in response? Sensation is thus, as the sensationalist claimed, the beginning of knowledge, but only in the sense that the experienced shock of change is the necessary stimulus to the investigating and comparing which eventually produce knowledge.[1]

This statement shows very clearly how knowledge arises, and we see that it is better to inquire as to the *conditions* of knowledge than its *sources*. Its conditions are a self with certain innate interests, an environment with which the self enters into relations, an intelligence that can fund, capitalize, and organize this experience and deal effectively with new and complicated situations. Knowledge is funded experience, but in the funding process mental powers and activities are the significant things — memory, thought, conceptual analysis, reflection, selective organization, creative synthesis. Knowledge is therefore not something which *drifts in* from a ready-made world in the form of impressions, as the old Sensationalism taught; nor is it the distilled product of certain *a priori* universal principles of thought, as the older Rationalism taught. It is a product of the interaction of the self and the environment, in which the remarkable powers of the self are the most significant factors. Hence it is not necessary to assume any *a priori*, super-empirical "categories" or principles of knowledge. Previous to the experience of the individual there are, to be sure, certain innate tendencies learned in the process of evolution through actual contact with the environment and actual success in dealing with it. If *a priori* be taken to mean racial habits of dealing with experience and organizing it, then indeed we may believe in *a priori* elements in knowledge.

But knowledge is also contemplative

This genetic account of knowledge is of the greatest value in giving us an insight into its real nature; but it is a little one-sided because it overemphasizes the instrumental character of the mind. The intelligence that is described is primarily that of the animal which has a practical problem to solve, probably that of

[1] John Dewey, *Reconstruction in Philosophy* (Henry Holt and Company), pp. 87, 89, 90.

getting food or outwitting an enemy. But even the animal has an instinct of curiosity, and in man the desire for knowledge for its own sake is very strong.

There is, then, another kind of knowledge than the experimental. Granting that sensations are primarily stimuli to action, they may also serve other ends — they may be revelations. They may serve our scientific interests, our desire merely to know. Sensations need not be always "urgent." They may be suggestive of external reality, leading to thought and scientific hypothesis, which in the end may result in discoveries concerning the actual structure of the world. They may, indeed, be revelatory of external reality itself. The world is intelligible as well as plastic; and present in intuition as well as intelligible. What Dewey calls knowledge may indeed change and mould and modify its objects, but there is a knowledge which is merely *contemplative.* The stars in the heavens are not changed by being known, except in the puerile sense of entering into a new external relation. As Leighton so well says:

> The functions of consciousness and reason are not exhausted in meeting novel situations and controlling behavior by a reference to the future. When I am engaged in æsthetic contemplation of nature or art, when I am enjoying the companionship of a friend, when I am contemplating the logical symmetry, beauty and impersonal grandeur of some scientific or mathematical construction, when I am living in some significant period of the past, for example Elizabethan England or the Athens of Pericles, when I am following the career and feeling myself into the life of some one of the race's worldly or spiritual heroes, my consciousness, keen, vivid and expanding, may have no reference to my own future behavior or that of any one else. The human spirit lives not by deeds of adjustment to external and future situations alone. It lives deeply in pure contemplation and free imagination. The instrumentalist errs by taking one important function of conscious intelligence and making it the sole function. Disinterested contemplation and enjoyment of the beauty, grandeur, meaning and order of things for their own sakes are for some human beings inherently worthful functions of consciousness.[1]

If this view seems quite opposed to the pragmatic account

[1] Joseph Alexander Leighton, *The Field of Philosophy* (D. Appleton and Company), p. 360.

given by Dewey, perhaps the reconciliation may be found just in this, that, while thinking was at first instrumental, it has finally become an end or value in itself. As bluntly stated by Montague, "Man began to think in order that he might eat, he has evolved to the point where he eats in order that he may think." [1]

Thus the ancient dispute between the Empiricists and the Rationalists seems much softened and need not detain us longer here; nor need we dwell further on the theory called *Sensationalism.* Knowledge is organized experience and experience includes both stimulus and response, and in the process of organization, memory, thought, and reasoning are all involved. It may be well, however, for us to linger a little longer on that theory of knowledge called *Rationalism.*

Other forms of Rationalism

In the history of philosophy the word *Rationalism* has had many different meanings. Sometimes it means merely that knowledge gained by reflective thought is of a higher and truer kind than that which is gained through sense-perception. We have seen, of course, that this whole contrast is misleading, but to the ancient Greeks, and especially to Plato, it seemed very important. Plato distrusted that illusory knowledge which is gained through the senses, and prized beyond measure that which proceeds from logical analysis, dialectic, and rational inquiry. Mathematics, he thought, was a type of such perfect knowledge. The human soul is at home in the realm of Ideas, almost supernatural in their worth and dignity. If truth is what we seek, it is better for you and me to sit down in a quiet place with abundant leisure and reason it all out. In such an enterprise the God-given rational powers of the mind may be trusted. We shall gain in this way a truer insight into reality than if we go seeing and hearing and touching and tasting and smelling in the changing world of material things around us. The latter method will give us just *opinion,* not science.

It is hard, indeed, to exaggerate the power of the mind in reflective thinking, and it was this power which Plato was exalting;

[1] *Jour. of Phil., Psych., and Sci. Meth.,* vol. VI, p. 489.

yet in correcting the error of a purely sensational philosophy he went too far in disparaging the value of sense-perception. Like all the Greeks he failed to understand the importance of checking up his reflections by an appeal to the data of experience; but Plato understood, as we now understand, the power of creative thought, which has given us the great things in the world's history, not merely in literature, art, philosophy, and morals, but in science itself.

Another form of Rationalism is represented by the seventeenth-century school of Continental thinkers, particularly Descartes, Spinoza, and Leibniz. These great philosophers lived in the dawning age of mathematics and mechanics, and the deductive method of these sciences seemed to them the only perfect method. Spinoza undertook to reduce philosophy to a purely deductive discipline, resting like geometry upon certain axioms and definitions. Knowledge has its source in universal and necessary principles, which may be intuitively discovered by the mind. Whatever the mind apprehends with perfect clearness and distinctness is true. Hence we have only to discover in this way the body of intuitive truth, and draw out its implications, when, behold, not only are the principles of mathematics and logic, but also those of metaphysics, ethics, æsthetics, and other branches of knowledge, made known to us.

Rationalists of this school were confirmed in their trust in this method by the remarkable results which it yielded when applied to certain branches of science, such as physics, dynamics, and celestial mechanics. It was easy to see, however, to what dogmatism this kind of Rationalism would lead, and Kant repudiated it for this reason. It seems to rest upon the belief in a kind of superphysical realm of rational principles with which the human mind is *en rapport*, and which *determine* from the beginning what kind of world shall actually be. It seems to assume that logical and mathematical truths are existences which just simply have to be discovered or discerned. It is at present believed that mathematics is not an existential science. Mathematical truths are not *discovered;* they are deduced; that is, they follow as implications from certain assumptions. Knowledge,

therefore, is not something unwound from a ball or skein, or drawn off from an already filled reservoir. This kind of Rationalism did not realize the creative power of the mind in knowledge. Knowledge was merely a process of apprehending clearly and distinctly principles of reason already existing. In its later forms it exalted Reason as some sort of mystical faculty of perceiving these absolute and unchanging laws.

On the other hand, it is possible to make the mind *too* important in determining the form that knowledge shall take. This led in the case of Kant to another kind of Rationalism as bad as that from which he was so desperately trying to escape. Instead of having the rationality of the world imposed upon it from above, Kant supposed that the mind itself imposes upon the world all the rationality and all the order that is found there. Both Time and Space and all the categories, including causality and substance, are just *forms* of the mind; they are laws of thought, not laws of things. It was not in emphasizing the activity of the mind and its creative power that Kant made his mistake, but in thinking of mind as *lending* to nature all its rationality and order. He thought that nature itself is the product of the understanding.

The new Rationalism

Philosophy of the present time, so far as it is rationalistic — and it is so to a considerable extent — follows none of these older forms, least of all that of Kant. The world is through and through rational and orderly, quite independent of that particular part of reality which we call the mind. The mind is a product of nature, has grown up with it, is at home in it, partakes of its rationality, but understands and appreciates only a part of its limitless riches. Knowledge is a selective process, choosing those aspects of reality which it can make use of, appreciate, or understand. It gets, perhaps, only glimpses of the whole of reality, but its vision so far as it extends is not illusory. Mathematical and logical truths are not drawn down from a heavenly kingdom where they have reigned in majestic isolation from eternity; they are involved in the very structure of the Universe. The order in the world and the rationality are objective, are there to be seen,

felt, and enjoyed. The real world is logical and mathematical, and the mind is just a part of this real world, has grown up with it, and lays hold of every aspect of it which it can use and appreciate. Yes, and I think that it lays hold not only of the logical and mathematical realities of the world but also of its moral and æsthetic realities — its goodness and its beauty, its "objective significant structures."[1]

So, then, knowledge comes neither from the senses nor from reason. We may say that it comes from experience, but experience means, in Mr. Santayana's well-chosen words, "so much of knowledge and readiness as is fetched from contact with events by a teachable and intelligent creature; it is a fund of wisdom gathered by living in familiar intercourse with things."

The new Rationalism emphasizes not merely the objective reality of logical relations, but also the importance of the constructive and creative power of the mind in the acquisition of knowledge. It is very far from returning to any theory of Sensationalism. Consider, for instance, the case of the scientist at work in his laboratory. It is indeed a *labor*atory rather than an *observ*atory. The fruitful contributions to knowledge that come from it are the results of intelligent labor rather than of passive sense-perception. The very building in which the apparatus is housed is planned for its special purpose. The discovery of the best method, the formation of an hypothesis from which to work, the planning of the experiment, the designing and setting up of the apparatus, the computation of the results — all these are the significant things, and they are the work of the mind. And yet it is just as true that none of this *labor* would avail unless in the end *observation* of the event, of the objective fact, were accurately and impartially made and truly recorded.

So in conclusion we see how our modern conception of the

[1] I refer again to George P. Adams's book, *Idealism and the Modern Age*, which should be read as a corrective of a certain onesidedness in the pragmatic theory of knowledge. Read especially Chapter VI in connection with Chapter V. Professor Adams seems to think that this view is inconsistent with an emergent theory of mind, evidently fearing that whatever emerges from the body must be very "bodily." But what if some original interest or desire for righteousness and beauty is achieving the vision of them by means of the body, as life is achieved by means of carbon, oxygen, and nitrogen?

mind simplifies the whole subject of knowledge. We can forget all about a faculty of reason, and in place of it substitute the power of creative thinking. Of the latter James Harvey Robinson says:

> It is this kind of thought that has raised man from his pristine, subsavage ignorance and squalor to the degree of knowledge and comfort which he now possesses. On his capacity to continue and greatly extend this kind of thinking depends his chance of groping his way out of the plight in which the most highly civilized peoples of the world now find themselves. In the past this type of thinking has been called Reason. But so many misapprehensions have grown up around the word that some of us have become very suspicious of it. I suggest, therefore, that we substitute a recent name and speak of "creative thought" rather than of Reason. *For this kind of meditation begets knowledge, and knowledge is really creative inasmuch as it makes things look different from what they seemed before and may indeed work for their reconstruction.*[1]

It is rational thinking which has marked every advance in the history of mankind, not merely in science and invention, but especially in morals and manners and civilization.

II. The Truth and Validity of Knowledge

This is the second problem in the Theory of Knowledge and is quite distinct from the one we have been discussing. It is not a question of where our knowledge comes from, but whether it is valid when we get it. In its general form it is the problem of the relation of our ideas to the world of reality. It introduces us to the famous dispute between the Realist and the Idealist. The alternative theories of *Realism* and *Idealism* now confront us and in this epistemological discussion these two words are used in different senses from those in which they were used in theories of ontology. The problem which we have now to discuss is simply the question whether the world is in itself a distinct independent reality, or whether it is just a reflection of our own minds, an idea, a perception, a mental construction. To the former belief the word *Realism* [2] is applied; to the latter, the term *Idealism.*

[1] James Harvey Robinson, *The Mind in the Making* (Harper and Brothers), p. 49.

[2] The word *Realism* as well as the word *Idealism* is ambiguous, having quite

Subjectivism

Idealism of this kind is sometimes called *Subjective Idealism* or *Subjectivism*, to distinguish it from Objective or Metaphysical Idealism, which is a theory of ontology, not of epistemology, and which we have discussed in a former chapter. The latter, we remember, is the theory that, although the objective world is real and independent of the perceiving mind, nevertheless, in its inner nature it is psychical, mental, or spiritual; and we recall also that this view was sometimes called *Spiritualism*, since the word *Idealism*, as we now see, is ambiguous. It is very important to keep this distinction carefully in mind and not confuse this Subjectivism or epistemological Idealism, which we are now to study, with the various forms of objective Idealism, such for instance as that of Plato or any of the numerous modern systems of this kind. Any impatience which we may perhaps feel with Subjectivism should not be carried over to the more helpful and dignified forms of Idealism teaching that in the objective world which we all believe exists around us and above us, the essential and abiding things are mind or spirit or eternal values. Whether the latter view be true or false, its truth is not dependent upon any form of subjective Idealism.

It is only since the time of Berkeley that the difficulty has arisen about the independent reality of what is called *the external world*. The naïve belief of mankind is that the world of objects around us, such as trees, mountains, and rivers, really exists very much as we see it, quite independent of the perceiving mind. Reference has already been made in preceding chapters to Bishop Berkeley's "strange" philosophy, which taught that there is no such reality as inert matter existing apart from our perception. This seems so absurd to most of us that we can hardly appreciate the strength of Berkeley's position until we have read his own arguments in his own charming and persuasive style. Fortunately these are readily accessible in his *Principles of Human*

another meaning than the present one. In this other meaning it is often called *Platonic Realism*, and refers to the belief that concepts, general notions, universals are real entities, not just names. In this sense Realism is opposed to Nominalism.

Knowledge, published in 1710, and in a more popular form in his *Three Dialogues between Hylas and Philonous.*

It is indeed an opinion strangely prevailing amongst men, that houses, mountains, rivers, and in a word all sensible objects, have an existence, natural or real, distinct from their being perceived by the understanding. But, with how great an assurance and acquiescence soever this principle may be entertained in the world, yet whoever shall find in his heart to call it in question may, if I mistake not, perceive it to involve a manifest contradiction. For, what are the forementioned objects but the things we perceive by sense? and what do we perceive besides our own ideas or sensations? and is it not plainly repugnant that any one of these, or any combination of them, should exist unperceived? [1]

But they have no such distinct existence, being merely our own ideas. In Berkeley's celebrated phrase, *esse est percipi*, to be is to be perceived.

Some truths there are so near and obvious to the mind that a man need only open his eyes to see them. Such I take this important one to be, viz., that all the choir of heaven and furniture of the earth, in a word all those bodies which compose the mighty frame of the world, have not any subsistence without a mind, that their *being* is to be perceived or known; that consequently so long as they are not actually perceived by me, or do not exist in my mind or that of any other created spirit, they must either have no existence at all, or else subsist in the mind of some Eternal Spirit — it being perfectly unintelligible, and involving all the absurdity of abstraction, to attribute to any single part of them an existence independent of a spirit. [To be convinced of which, the reader need only reflect, and try to separate in his own thoughts the *being* of a sensible thing from its *being perceived.*] [2]

It is probable that this controversy between the Realist and the Idealist has received more attention in the history of modern philosophy than it deserved. There is at the present time a strong realistic reaction against all forms of Subjectivism and a tendency to return to a "common-sense" view. Berkeley's Idealism is not, however, refuted by an appeal to common sense, any more than it was by the argument of Dr. Samuel Johnson, who in Berkeley's own day struck his foot with mighty force

[1] George Berkeley, *Of the Principles of Human Knowledge* (Open Court Publishing Company), part I, sec. 4.

[2] George Berkeley, *op. cit.*, part I, sec. 6.

against a stone till he rebounded, saying, "I refute it thus!" [1] For all that was given in Dr. Johnson's own experience was a group of visual and muscular sensations and possibly a pain, which he located in his toe. Whether the controversy is fruitless or not, a short outline of the argument must here be given. It is a kind of initiation, which every aspirant to a knowledge of philosophy must go through.

The ego-centric predicament

The difficulty which arises between the Realist and the Idealist has sometimes been called the *ego-centric predicament.*[2] What we mean when we say that a thing exists, say a tree, is that it is perceived. So said Berkeley. For, just as soon as you try to think of it as not perceived, you are still *thinking* of it; it is a *thought* object. Try to think of the tree as an existence in itself, unperceived by any mind. You still think of it as having certain sense qualities; it is green, or hard, or rough. It is an object of ideal perception. Hence we can never know what objects are in themselves — only what they are as perceived; perhaps they are nothing *but* perceptions. Possibly there are no objects independent of the perceiving mind; possibly they are merely projections of the mind, like the forms I see and the voices I hear in my sleep. But *if* I think of them as independent objects, I am still *thinking* of them as they would be perceived. I think of them, for instance, as colored, and yet color depends upon an eye. I think of them as making noise or sound, and yet sound and noise depend upon the ear. Roses would not be red apart from the seeing eye, nor fragrant apart from the sensing nose, nor beautiful apart from the appreciating mind.

Hence the ego-centric predicament. An object in order to be known is an object known; it is in a cognitive relation to the knowing subject. What it would be *out* of this relation there is no telling, for just as soon as you approach it to find out what it is, it enters into a cognitive relation to you. It is always an object known, not an independent thing in itself.

[1] Boswell's *Life of Johnson*, edited by Glover, London, 1901, vol. I, p. 313.
[2] The phrase is to be credited to Ralph Barton Perry.

The effect of this argument upon any one hearing it for the first time is to cause first incredulity and then exasperation. One tries to answer Berkeley by saying that it is nonsense to affirm that the rose does not exist unless perceived. Suppose the rose lies upon the table and we all go out of the room. Does it not then continue to exist? To which Berkeley patiently replies — What do you mean by existence in this case? Name some quality that such an existing rose would have. When you do so, you mention some sense quality, such as red, white, large, small, or fragrant. All the qualities of the rose are simply sense data.

But the reader is unconvinced by this reasoning and proposes to offer a proof for the reality of the external object in this way: A given thing, say a rose, is seen, not by one person, but by many. It might, to be sure, be a phantasm of my own, so far as I am concerned; but if I can call in another person to testify that he, too, sees the rose, then it must be there. But this argument fails, because you have no more evidence that the other person exists than you have that the rose exists. The other person is known to you only through sense-perception; you can see him and hear him and touch him, but in the end he is nothing more than the sum of certain sensations. Some sensory nerve is stimulated, some brain center is excited, some perception results.[1]

The situation begins to get desperate. How do I know that there is any world at all? How do I know that there is anything in the Universe except myself and my impressions or ideas? To this extreme form of Subjective Idealism, which affirms that I alone exist, the name *Solipsism* has been given, from the Latin *solus* and *ipse*, meaning myself alone. Berkeley did not hold this

[1] Berkeley attempted to show that our knowledge of other minds, other persons, is not quite the same as our knowledge of bodies and material objects. He said that we *perceive* the physical object, but have a *notion* of other minds. This was a forlorn endeavor, and the distinction has little worth. More recent writers have tried to show in other ways that we have a more direct or a different kind of knowledge of other minds than we have of physical objects. For instance, it is said that I feel the power of your will or personality controlling me or coming into conflict with my will. Apart from mystical or telepathic influences the argument seems to have little weight.

view. I doubt whether it should ever have been dignified by the creation of a Latin name for it. It is the *reductio ad absurdum* of this kind of Idealism.

Objections and answers

At this point the reader may say, "Wait, I am not convinced of Berkeley's position; I am not even convinced that his argument is sound. I see two weaknesses in it. In the first place, physical science tells us about the external world. If there were no material world around us, what is it that science studies? No scientist would listen to Berkeley's claim that there is no such thing as matter." But this objection, again, has little weight. Berkeley did not deny that the objects which science studies exist, but that they exist independent of the perceiving mind. We must not forget what is meant by the word *exist*. The rose and the tree and the human body and all the things studied by science are perceptions, objects of experience. As such, they are objects of scientific study, and the scientist does not need to trouble himself with any metaphysical questions as to the relation of these objects of experience to some reality beyond perception. Indeed, very distinguished scientists have expressly taught that the objects of science are merely phenomena, just objects of perception, bundles of sensations, or "complexes of sense data." [1]

The second weakness in Berkeley's position, continues the doubter, is this: "Suppose we grant that objects of experience, such as roses, trees, houses, are just 'complexes of sense data,' or perceptions, nevertheless, the perceptions must have a cause. Objects come and go quite against my will or expectation. They break in most unpleasantly sometimes upon my train of thought. How could they do this if they were merely subjective, just phantasms of the mind? There must therefore be some objective cause or source of these perceptions; and, furthermore, if we may be allowed to accept the existence of other minds, as

[1] Compare Karl Pearson, *The Grammar of Science;* Ernst Mach, *The Analysis of Sensations;* and Bertrand Russell, "Our Knowledge of the External World," chap. III in his *Scientific Method in Philosophy.* Compare also Huxley's appreciation of Berkeley's position in Huxley's book entitled *Hume.*

Berkeley does, the objective source of the perceptions must be something abiding and persisting, affecting all minds alike."

This difficulty is more serious than the others and must be carefully considered. Objectivity of some kind is certainly revealed by this demand for a cause of our perceptions. Berkeley, Kant, and all the Subjectivists recognize this demand and provide for it. We shall be interested to learn how they do this. Kant's solution is the easiest to grasp, if not the most convincing — and may be examined first.

It is true, said Kant, that our sensations must have a cause and that this cause must be outside the mind. We will, therefore, recognize the existence of such a cause as absolutely necessary. It is the unknown *Thing in Itself* (*Ding an sich*). It is not even in time or space, because, as we recall, time and space are subjective. Science can tell us nothing about this ultimate reality, for science deals with phenomena, things as they appear to us, conditioned by the nature of our sense organs and the constitution of the mind.

The world, then, according to Kant, the world of science as well as of familiar everyday perception, is a mental construct or creation. The understanding makes nature. It does not, to be sure, make it out of nothing. The raw material is given in sensation, but the whole form and structure of it, its whole texture, even its temporal and spatial character, are all contributed by the mind. What is given to us in sensation is a chaotic manifold only; all that makes the world orderly, coherent, having form, meaning, structure, comes from the peculiar constitution of the mind. Since all objects of knowledge are phenomena, we may call Kant's theory *Phenomenalism*, rather than complete Subjective Idealism.

Berkeley's own solution of the difficulty is quite different and seems very strange to one who hears it for the first time. There is, we remember, no such thing as matter in the sense of an objective inert substance. Things are just perceptions; but some objective *cause* of my perceptions there must of course be. Matter being inert could not, even if it existed, be the cause of my perceptions. Perceptions being mental states could only proceed

from a spiritual source, an active will, a divine will. What we call the world of natural objects is, therefore, the regular and systematic operation of God, the infinite spirit, upon a society of finite spirits; that is, upon human minds.

At first sight this introduction of God as the cause of our ideas, instead of an external material reality, seems a lame and forced explanation. It seems a fitting climax to an absurd system. But Berkeley had an exasperating ability in defending his position, and this last hypothesis may be less unreasonable than it sounds. If Berkeley were here to defend his philosophy, and if he were acquainted with the results of recent science in its investigation of the nature of matter, he might reason as follows: "You say that something called matter is the cause of your sensations. Well, what is matter? It has been reduced to units of energy, dancing and vibrating electrons, as far from one another relatively to their size as the planets. What do you know about this energy as regards its quality? Nothing; it is the capacity for doing work. You assume, then, that something, almost an x, which you call matter, exists, and that it is perhaps nothing more than a form of energy, and that this energy working upon your organs of sense gives rise to those various sensations which you call heat or light or sound or impact, making up your world."

"Very well," continues Berkeley, "now tell me whether your theory is any better than mine or, indeed, very different. You say that the only reality outside the perceiving mind is a world of energy, the nature of which is unknown, operating upon the mind. I say that the only reality outside the mind is God, who causes the perceptions. If this view seems absurd to you, it is because you do not think of God in the right way. God is an omnipresent, all-encompassing, divine energy, revealing himself to us in those multiform impressions which make up our world of objects. The only difference in our two positions is that you call this encompassing energy *material*, while I call it *spiritual;* but since you admittedly do not know anything about your material energy except that it is the capacity for effecting changes, the advantage is all in favor of calling it, as I do, spiritual energy, or God: for then we can understand how its operation is rational,

orderly, and progressive. Try, for instance, to explain in your way the beauties of nature or the wonders of evolution."

Certainly Berkeley's philosophy works out in a strange way. He seems to have found some objective world after all, only he calls it God, while others call it matter. One cannot but wonder whether Berkeley's view is so far wrong. The beauty of the sunset, mountain, cloud, and sea, the exquisite perfection of the microscopic world, the almost miraculous order of nature as shown in animal instincts, in the marvels of evolution, in variation, in heredity, in the mystery of life itself — all these make it reasonable, indeed, to say that the living energy, which surrounds us on every side, acting as stimulus to our sense organs, is God. If any one were to urge as a further objection to this philosophy that it is Pantheism, since it reduces the world to God, Berkeley could reply that it is not Pantheism, since he expressly affirms the reality, independence, freedom, and responsibility of finite minds or human souls. Perhaps the greater error in Berkeley's philosophy is to be found, not in this ontological part, but in his theory of knowledge.

Criticism of Subjectivism

Such, then, is the famous epistemological Idealism which teaches that the world is my idea. It seems to resist all ordinary methods of attack, but, as carried out to its final conclusions by Berkeley himself, leads to nothing very startling nor very strange. But the question arises whether it really is so impregnable a philosophy as it seems — whether there may not be some initial assumptions in it which are unnecessary or even false.

There is a "catch" about the ego-centric predicament, which has been pointed out again and again by recent writers. It does not follow that, because the things which I know exist in a cognitive relation to me, they cannot exist also without this relation. You say that the rose or the tree is my idea, and that anything at all which I approach with a view of knowing it becomes something known, or an idea. Well, if that be true it does not follow that the rose or the tree might not exist in *other* relations. If it be true that I cannot know anything about things not experi-

enced, it does not follow that there are no unexperienced things. Let us make the supposition that there is a world of reality quite independent of human experience, say a material world, a world of nature objects, a world, if you please, of green trees and brown mountains and blue sky. The postulate is permissible. Then let us suppose that sensitive organisms should arrive, perceptive minds, reasoning men. They could surely prove to their own delight that all the trees and mountains and other objects were just bundles of sensations, 'complexes of sense data.' But by hypothesis this conclusion would be false. So we can, at any rate, make the postulate that there is a real objective world independent of our perceptions. Science usually makes this postulate, and when made it is found to yield satisfactory results. Incidentally it conforms to common sense.

But there is a more serious error underlying the whole subjectivist theory, an error so fundamental as to cause a feeling of indignation that it could have been imposed upon so many generations of students of philosophy. It goes back to John Locke, who said that knowledge is the perception of the agreement or disagreement of two ideas. For instance, the knowledge that the rose is red is the recognition of the agreement between the ideas "rose" and "red." Locke's notion seemed to be that there are certain things or entities *in* the mind, which he called ideas, and that then this entity, called the mind, surveys these ideas and recognizes their agreement or disagreement, such recognition being knowledge. It is this false psychology which has done so much mischief in epistemology. In modern psychology this error has been perpetuated through the misunderstanding that arises in the use of such terms as *sensations*, *states of mind*, and *states of consciousness*, in which these things of subjective interest only have been confused with the sense qualities of objects. Then the red of the rose, the blue of the sky, and the brown of the mountains have been called sensations or mental or conscious states, instead of being called, as they should be, qualities of objects.

The account of knowledge already given in this chapter, when we were discussing the sources of knowledge, removes many of

these difficulties and leads to a kind of common-sense Realism. Knowledge is not the recognition of the agreement or disagreement of ideas, but the direct experience of things. It arises in the interaction between a percipient organism and a thing perceived. In its simplest form it is a mere awareness of an object. An amœba, for instance, comes in contact with something which may or may not be available for food. It becomes aware of it. After repeated contacts an elementary memory leads to recognition. The object is appropriated or avoided. The amœba has had experience, knowledge. Surely there is nothing very mysterious about knowledge when we consider it in this way — and it certainly involves, not only a perceiving subject, but an object perceived. It presupposes a world external to the perceiving organism; that is, a real world, having real qualities, existing with its qualities before it is known, and when known coming into a new relation — a relation with a knowing mind.

Now, in the case of human knowledge we have a complex environment in interaction with a complex organism and the character of the knowledge is determined by the nature of both. Since the perceptive organism is itself a very complex affair, having a certain limited number of sense organs receptive to only certain kinds of stimuli; using these stimuli primarily, not as gateways to knowledge, but as incentives to action; having the power of memory adding associative elements to what is given in sense-perception; and having peculiar needs with likes and dislikes, the question is, of course, always coming up whether the knowledge which such an organism has of its environment is an "accurate" knowledge. Hence arise all the discussions with which the literature of epistemology has been burdened; for example, about illusory experience, truth and error, and the distinction between primary and secondary qualities. We hear much about the straight stick appearing bent in the water, and the converging parallel rails, and about secondary qualities belonging not to things, but only to minds.[1] But the

[1] It was said by Locke, and before Locke by Galileo, and even by Democritus in ancient Greece, that while certain qualities, such as solidity, motion, and extension (the so-called primary qualities) belong really to the object, certain other

laws of light will explain why the straight stick appears bent in the water and why the parallel rails appear to converge; and there are many now who do not think it necessary to regard as subjective such qualities as color and sound, but only to remember that different qualities of objects are revealed under different conditions.[1] Perhaps the simplest solution of this ancient problem is the best. We may still believe that the world which we know — a world of objects existing in space and time, a world of causal relations, a world of color and sound, a world of proportion and beauty — is not a world which we create in knowing, or which is changed by being known, but a world which has existed all the time and which has created us, the knowers. The objective world, then, is real, and our knowledge of it is true even if partial; and this true knowledge of the world is constantly being enlarged by the application of scientific methods of investigation.

Types of Realism

This discussion of Realism and Idealism should not be concluded without some reference to recent realistic schools. This may be prefaced by a notice of some older forms of Realism. A realistic world view is the natural one, and the plain man takes it for granted. Unless, however, he has some knowledge of physiology and psychology, he is apt to hold it in too naïve a form.

Naïve Realism is the name given to the view carelessly held by the unthinking man, who may believe, perhaps, that the eyes are windows through which some inner eye gazes at the real world and sees it just as it is; or, again, that the mind is a kind of tablet upon which is impressed through sense-perception a *copy* or *picture* of the world without. When we study the structure of the brain and the organs of sense and the pathways of the sensory nerves, we begin to understand the naïveté of these first views and so proceed to examine more critically the way that knowledge arises. This leads to some form of *Critical Realism*,

qualities, such as color, sound, taste, and smell (the so-called secondary qualities), do not belong to objects really, but are subjective, existing only in the mind.

[1] Compare A. N. Whitehead, *The Concept of Nature*, chaps. I and II.

which in its broader meaning is the attempt to reconstruct a scientific Realism based on a more accurate physiology and psychology.

An early attempt of this kind was made by Locke, whose view is called *Representative Realism.* This holds that the real external world consists merely of material particles in motion and that our ideas of the qualities of matter merely *represent* these qualities, and, indeed, even then represent only such *primary* qualities as motion and figure, while such *secondary* qualities as color and sound exist only in the mind, their objective source being some form of matter in motion. Such a Realism tends, as we have seen, toward some kind of Phenomenalism or Subjective Idealism. Herbert Spencer, again, proposed a form of Realism which he called *Transfigured Realism.* The external world is a world of matter, motion, and force; but as revealed to us through perception it is transfigured, as the image of a cube is transfigured in a mirror.

The New Realism

Lately a new form of Realism has appeared in America and in England called *The New Realism,* or *Neo-Realism,* heralded by a school of vigorous writers.[1] It represents a return to the common-sense doctrine of a real objective world directly known in perception. Knowledge is not mediated by any mental state, idea, or sensation. Real objects are directly presented in knowledge. In the act of knowing, the object of knowledge is not an idea or sensation which is considered as a copy or representation of an outer object, but the outer object itself is present to us as an actual outer independent reality. When we are aware of an object, say a tree, it is the tree itself which we are aware of, not our visual, auditory or touch sensations. The New Realism, therefore, rejects Subjectivism in all its forms. It denies that

[1] This movement first became generally known in 1912 through the publication of a book entitled *The New Realism,* by Edwin B. Holt, Walter T. Marvin, William Pepperrell Montague, Ralph Barton Perry, Walter B. Pitkin, and Edward Gleason Spaulding. In England the movement is represented by G. E. Moore (see his *Philosophical Essays*) and S. Alexander (see his *Space, Time, and Deity*).

things are either created or modified by a knowing mind, and thus represents the emancipation of philosophy from epistemology, which, indeed, has too long tyrannized over it. Beginning as a protest against the domination of Subjectivism, the New Realism has developed into a unique and rather vigorous school of philosophy opposing both Subjectivism and Absolutism. It does not believe that the world is an organic whole or unity of such a nature that analysis will destroy its reality, but encourages the vigorous use of the analytic method known to the special sciences and believes that reality is revealed in such analysis. Hence the New Realism is intellectualistic, renouncing all mystical philosophies and all modern forms of anti-intellectualism which rely upon intuition or ineffable insight. It rejects the doctrine that all relations are internal, and holds to the externality of relations, such that the nature of the thing is not necessarily determined by the relations in which it stands; it may get into all kinds of relations with other things without changing these other things or being changed by them. It may even happen to be *known*, if some knowing mind comes along, and it remains unchanged by this cognitive relation.

Again, according to the New Realists, relations are not only external, but they are objective. Things are not related by the mind which grasps them, but the relations in which they stand are real, just as real and just as objective as the things themselves. If John is taller than James, not only is John real and James real, but the relation expressed by the words *taller than* is also real. Hence a pluralistic world view is favored over monistic and dualistic systems. Reality is diverse and rich in its manifoldness. We cannot lightly affirm that the Universe is one great systematic unity, nor, on the other hand, can we say that there is nothing but mind and matter; for there may be many other real things — space and time relations, logical principles, perhaps even ethical ideals. Thus this rigid analytical Realism approaches in the end to a kind of Platonic Realism, in which the world of merely physical or mental reality is enlarged by a realm of subsistent entities. Even such ideal concepts as justice and beauty may, according to some members of this school, find

their place again as real entities.[1] The New Realism is thus inconsistent with both Materialism and Dualism and with that extreme form of Spiritualism which affirms that nothing exists except mind.[2]

The New Critical Realism

The powerful realistic tendencies of the present time are seen in the rise of another recent school called *Critical Realism.* We may name this the *New Critical Realism* to distinguish it from the older form already mentioned.[3] The representatives of this movement have analyzed the knowing situation with great keenness and found difficulties not merely with the old idealistic theories, but also with the results of the New Realism. Perception of objects is not so immediate as the New Realists think. Except by inference we cannot go beyond the *sense data.* If we carefully note what is actually given in perception when we see a coin lying on the table, or a wheel three feet in diameter rolling away from us, we shall at once recognize the fact that the circularity of the coin or the wheel, is not immediately perceived, nor are many others of the features which we attribute to the real coin or wheel. Surely the heat of the fire is not directly perceived, for the heat differs with our distance from the fire. Illusions and hallucinations of all kinds offer difficulties, too, which no naïve Realism can solve.

Nevertheless, the Critical Realist is also a *real* Realist, for he rejects with emphasis the position of the Subjectivist and of the

[1] Not all New Realists would be willing to include ethical and social ideals among real entities. Their status is not quite the same as that of logical and mathematical forms, yet their reality within the sphere of conduct and society might equally well be affirmed. Certainly there would seem to be nothing inconsistent with the New Realism in this part of Plato's philosophy. See the discussion of this subject in Spaulding's *The New Rationalism,* pp. 344–521.

[2] For a brief statement of the principles of the New Realism, see:
The New Realism, esp. Introduction, pp. 2–42.
Perry, *Present Philosophical Tendencies,* chap. XIII.
Rogers, *English and American Philosophy Since 1800,* chap. VIII.
S. Alexander, *Space, Time, and Deity,* vol. II, chap. IV.
G. E. Moore, *Philosophical Studies,* chaps. I, II, V.

[3] The doctrines of this school may best be reviewed in a book entitled *Essays in Critical Realism,* also of composite authorship. The several chapters are written by Durant Drake, Arthur O. Lovejoy, James Bissett Pratt, Arthur K. Rogers, George Santayana, Roy Wood Sellars, and C. A. Strong.

absolute Idealist. He accepts the objective existence of things because the view is plausible and conforms to common sense and works in practice. He accepts this, however, by "faith," rather than by knowledge, differing in this respect from the New Realist, who accepts the reality of the physical object because knowledge is merely the relation between such an object and the knowing mind.

The Critical Realist, is, indeed, very much exercised over the question, which has perhaps too long lent itself to controversy, just what it is that is given in perception. He is no longer content, with the Subjectivist, to speak of such things as color and sound as sensations belonging only to a mind, nor yet is he willing to go to the extent of the New Realist and consider them as qualities of real objects. He does not believe that the outer object is actually and immediately apprehended. The outer object in its bare, brute reality is not given in experience. Only the *sense data* are present in experience, and they are complexes which, indeed, reveal the character of the object, but contain many other elements; that is, they reflect the nature of the perceiving mind as well as that of the perceived object.[1]

The outer object really exists quite independent of the perceiving mind, but it is something very different from the "datum of perception," the "character-complex apprehended," which has traits not belonging to the outer object. It is the outer object *as* the object appears to the perceiving mind, reflecting, indeed, some of the qualities of the real object, the primary qualities, but containing many secondary qualities, which reflect the character of the perceiving organism. The Critical Realist is, therefore, disposed to consider the sense data or *sensa*, as something intermediate between the perceiving mind and the physically existent thing. So we hear a great deal about the *datum*, or *character-complex*, or *essence*. The mind cannot reach out to the object itself; it reaches out to the *essence*, the *datum*.

Thus it seems that in the knowing situation there are three kinds of entities: first, the perceiving mind or the conscious or-

[1] Compare Durant Drake, "The Approach to Critical Realism," in *Essays in Critical Realism*.

ganism; second, the outer object, the ultimate brute reality, having only the primary qualities, not immediately apprehended in knowledge; third, the datum of perception, that which is immediately given to sense, named also the *character-complex* or *essence*. The latter is not mental, nor any part of the perceiving mind, nor is it a part or aspect of the outer object; it is an intermediate "logical entity."

This particular part of the knowledge problem is, to be sure, filled with difficulties, and, no doubt, any final Realism must be of the "critical" kind; but I have faith that the difficulties will ultimately be solved by a somewhat "less critical" and more naïve Realism than that of this school; but if so, the researches made by the Critical Realists will contribute to the final results.

Mr. Santayana, in his recent book called *Skepticism and Animal Faith*, has written in his engaging manner much of "essences"; but the plain, blunt man finds difficulty in understanding what they are. One would fain believe that Santayana means that the perceiving organism grasps so much of the physically existing thing as is significant to it — its essence for him, the interested observer. But "essences" have a scholastic flavor, and one can but wonder whether we need them. If physical objects are real, it would seem hardly necessary to regard the way they appear, their appearances, as "logical entities," floating between the organism and the object. It would seem quite natural that they, the real objects, should call forth different reactions under different circumstances. The "essences" of the Critical Realists remind one of the "neutral entities" of the New Realists — things that perhaps we can get along without.

It is, of course, true that the heat of the fire is sensed in a different way according as the observer is near or far; but no mysterious essence, as object of intuition, is here necessary, for the real outer object is heat-modified-by-distance. A patch of brown leaves may be seen as a bear. But the sensing organism does not intuit an "essence." It intuits a patch of brown leaves, and, owing to its own mechanism, its past frights and subjective interests, it reacts as it would react to a bear.

Possibly in some such way as this the problem could be worked

out. But we must remember that it is only in later stages of culture that sensitive organisms become interested in questions of reality in the cognitive sense. For the most part the organism's only interest is in the appropriate reaction to a given stimulus. "How," it asks, "does this experience affect me and my welfare? What is its meaning?" But when, in the case of human beings, animal curiosity develops into scientific interest, then the observing mind begins to inquire about objective "reality"; and then the observer desires to know what the objective world is *really* like — that is, what it would be as intuited by an observer with no subjective interests — and he rebels against being told that no approach to the living reality is possible except through "faith," or that he is hopelessly limited in his knowledge to phenomena, or to "essences," or to his own sensations. He feels that he has a direct contact with things, or at least with certain sides or faces of things, and that sense perception reveals in part what things *are*, not merely what they mean. The realistic movement of our day would seem to lose much of its zest if we are to find in sense perception no direct approach after all to the outer existent thing. The latter seems to have receded again to a kind of mysterious Kantian *Ding an sich*, eluding every attempt to grasp it. *If* the logical position of the Critical Realist is better than that of the New Realist, he gains his advantage at great sacrifice, finding himself well on the way back to the camp of the Idealist.[1]

In connection with this chapter read:

Ralph Barton Perry, *Present Philosophical Tendencies* (Longmans, Green and Company), chap. XIII, "A Realistic Theory of Knowledge."

John Dewey, "The Need for a Recovery of Philosophy," in *Creative Intelligence*, pp. 3–69.

Further references:

Walter T. Marvin, *An Introduction to Philosophy.* (The Macmillan Company), part II.

Douglas Clyde Macintosh, *The Problem of Knowledge.* (The Macmillan Company.)

[1] Compare Bosanquet's criticism in his *Contemporary Philosophy*, chap. VII.

L. T. Hobhouse, *The Theory of Knowledge.* (Methuen and Company.)

Bertrand Russell, *Our Knowledge of the External World* (*Scientific Method in Philosophy*) (Open Court Publishing Company), chap. III, "On Our Knowledge of the External World."

G. E. Moore, *Philosophical Studies* (Harcourt, Brace and Company), chap. I, "The Refutation of Idealism"; also chaps. II, V, VI, VII.

Durant Drake and others, *Essays in Critical Realism.* (The Macmillan Company.)

Edwin B. Holt and others, *The New Realism.* (The Macmillan Company.)

C. D. Broad, *Scientific Thought.* (Harcourt, Brace and Company), part II, "The Sensational and Perceptual Data of our Scientific Concepts."

R. F. A. Hoernlé, *Studies in Contemporary Metaphysics.* (Harcourt, Brace and Company), chaps. IV, V.

S. Alexander, *Space, Time, and Deity.* (The Macmillan Company), vol. II, chaps. IV, V, VI.

Edward G. Spaulding, *The New Rationalism* (Henry Holt and Company), part II, section IV.

Locke, *An Essay Concerning Human Understanding.*

A. N. Whitehead, *The Principles of Natural Knowledge.* (Cambridge University Press.)

CHAPTER XXI

PRAGMATISM

A philosophy of real life

Pragmatism is a new philosophy, having its rise within the twentieth century. It is not so much a new philosophy as a new attitude, a new method of approach to philosophical problems. The word is from the Greek, having almost the meaning of our word *active*, or *efficient*. We may thus understand at once the spirit of Pragmatism, if we keep in mind that it always puts the emphasis upon what is practical, efficient, useful, fruitful, or satisfying. So it is not strange that it should have originated in America, where efficiency is our watchword and where the practical and useful are greatly emphasized, rather than the theoretical or academic. When Grover Cleveland said, "We are confronted by a condition, not a theory," he was a Pragmatist. When the man from Missouri demands to be "shown," he is a Pragmatist.

So when the reader comes to this chapter on Pragmatism, he will perhaps say, "This is the philosophy for me! There is one fault I have to find with philosophy, namely, that it is too theoretical, too far removed from our practical concerns, too metaphysical and scholastic. What I want is a philosophy of life — of real life."

Well, this is what Pragmatism is. It is distinctly a philosophy of life. Life is real and the real is life. It is decidedly a human philosophy and has sometimes been called *Humanism*. When, therefore, philosophy becomes the science of human interests and the things which are vital to men become the subject of philosophical study, then, many will say, has come that regeneration of philosophy which has long been needed.

Pragmatism is distinctly a philosophy with a modern outlook. The ancient Greeks, with their æsthetic contemplative habits, with their mathematical and astronomical interests, with their curiosity to understand a ready-made perfected world, would

have cared little for Pragmatism, which is a philosophy of action, doing, experimenting, achieving, overcoming. The Pragmatist does not think of the world as ready-made, perfect, beautiful, something to be enjoyed, contemplated, or worshiped; he thinks of it as a world to be made, or made over — remodeled to his desires and wishes. Consequently, it is not the astronomical Universe, the Cosmos, the world which the physical sciences try to penetrate, that the Pragmatist is interested in; it is the human world, the social world, the industrial world, the world of human affairs, which holds his attention. The world is in the making, and he wants to know how to make it better, that it may subserve his interests and his welfare.

Ideas as instruments

Consequently, the Pragmatist has a new and original notion of the mind, of ideas, of intelligence. He thinks of them as *instruments* for attaining certain ends, or removing difficulties and perplexities. So Pragmatism is often called *Instrumentalism*. The modern man is very much interested in instruments or tools. This peculiar interest has been growing ever since Archimedes invented the lever, with which he boasted he could move the world, if he had a place to stand. Archimedes, to be sure, was a Greek, but the Greeks of the classical period would not have understood him. They did not wish to move the world; they wished to study it, to contemplate and enjoy it.

But ever since the Industrial Revolution we have been trying to move the world, and inventing new tools for moving it, and for moving ourselves faster and faster around it. The modern man is the instrument-maker, and, taking his cue from this, the Pragmatist conceives of Nature as the instrument-maker and evolution itself as a process of experimentation, leading to the discovery of new instruments by which living organisms may attain their ends. Intelligence itself is such an instrument or tool, the result of Nature's experiments in evolution. Even philosophy is considered no longer as an end in itself, something of intrinsic worth and dignity, but as an instrument of social welfare.[1]

[1] Compare Dewey, *Reconstruction in Philosophy*, p. 124.

A difficulty

Now, all this seems quite exhilarating. It is certainly a new and fresh view of philosophy with wonderful practical possibilities. But our first acclaim may be attended with a little shadow of doubt. It is all just a bit confusing, for the reason that we had come to look upon philosophy in quite a different way from this. We had looked upon it as the search for knowledge and truth, as an attempt to understand the world. We had thought of it as more like science, a wholly dispassionate and critical investigation of things, and their interpretation; and by their interpretation we had not meant their evaluation for any *end*, but their relation to one another and to the whole. Hence this sudden intrusion of "interests" and "cash values" and "satisfactions" and "fruits" is confusing. To be sure, the study of human interests, values, and satisfactions is a fascinating theme; just as *applied science*, which is the application of theoretical science to practical human problems, is a fascinating study, engrossing the attention of a vast army of seekers after wealth, power, comforts, and conveniences. But we had never thought of philosophy in this way.

If there is really any difficulty here, let us overlook it for the present and see if we can catch the real spirit of this new movement. It has certainly become a very famous philosophy, and we hear on every hand about James and Dewey and their numerous disciples. Whether Pragmatism be a true philosophy or not, it is certainly a vital one; and to the Pragmatist its vitality is evidence of its truth. Whatever we may conclude in the end about its value, we must recognize the fact that it has had a very wholesome effect upon philosophy in general, purifying it from many wordy subtleties and misty abstractions, and forcing it into the narrow path of hard fact and common sense.

Way of approach

It would be well for the reader to begin with James's little book entitled *Pragmatism*. The rapid rise of the whole movement was largely due to James's brilliant defense of it.[1] He

[1] The credit for the original principle upon which Pragmatism is based is

spoke directly to real men in real language which they could understand. This, they said, is not metaphysics; this is plain blunt truth about both pleasant and unpleasant facts. It seems like a good democratic philosophy.

If the successful launching of Pragmatism was due to James's spicy and pungent lectures and essays with his instinct for facts and the outcropping of his religious and mystical interests, the continued strength of the movement in America is to be attributed to Dewey's dialectic skill, connected with his widely known interest in educational reform and social welfare. With Dewey Pragmatism takes the form of *Studies in Logical Theory*, leading to an instrumental theory of knowledge and of truth, and is called *Instrumentalism*. In England, it has been ably defended by F. C. S. Schiller, with whom it takes the form of *Humanism*.

A book bearing the suggestive title *Creative Intelligence*, published in 1917, and coöperatively written by Dewey, Moore, Brown, Mead, Bode, Stuart, Tufts, and Kallen, sets forth the principles of Pragmatism in their various applications to philosophy, logic, mathematics, physical science, psychology, ethics, economics, art, and religion.

Pragmatism and religion

Although the interests of religion have usually been associated with "tender-minded" Rationalism rather than with that "tough-minded" Empiricism which is the father of Pragmatism, nevertheless, the latter has been found to have close affinities with religion and has been somewhat widely accepted by religious workers and thinkers. This is because of its emphasis upon the adventurous and strenuous character of life, upon the venture of faith and the will to believe, and because of its share in the prevailing interest in the psychology of religion. Hitherto the theoretical truth of religious beliefs has too much engrossed our attention. In practice religion *works*, and what works is in so far forth true, says Pragmatism. Even science,

usually given to Charles Pierce, who in 1878 wrote an article for the *Popular Science Monthly*, entitled "How to Make Our Ideas Clear."

as Schiller points out, makes the venture of faith, setting out with strange hypotheses and theories, which await experimental verification.[1] "Our passional need for taking the world religiously," says James, "justifies the venture. It is better to yield to the hope that religion may be true than to yield to the fear that it may be false, since yield we must to one or the other." [2]

Pragmatism, then, is pluralistic and voluntaristic. It leans toward Indeterminism, Nominalism, and Utilitarianism. It is evolutionary and naturalistic. It has close affinities with Positivism and with Empiricism. It is anti-rationalistic and energetically anti-intellectualistic, being therefore radically empirical and, in James's picturesque phrase, "tough-minded." Finally, it harmonizes easily with the attitude of religion.

Pragmatism as a method

Pragmatism is a tendency and a movement rather than a philosophy. In fact it holds philosophical systems in profound suspicion. It is more like a "corridor" through which one may enter upon philosophical studies. It is an attitude and a habit of thought — a habit of looking forward to results rather than backward to first principles. Everything is to be judged by its fruits, by its consequences. Thus it follows that any idea, theory, or dispute which does not *make a difference* in its practical consequences for us ceases at once to have any significance. All these are simply dropped; they cannot be tested. Hence a great number of ancient philosophical controversies, theories, hypotheses, systems just collapse; they fade away under this rigid pragmatic test. *They do not make any difference.*

A pragmatist turns his back resolutely and once for all upon a lot of inveterate habits dear to professional philosophers. He turns away from abstractions and insufficiency, from verbal solutions, from bad *a priori* reasons, from fixed principles, closed systems, and pretended absolutes and origins. He turns towards concreteness and adequacy, towards facts, towards action and towards power. That means the empiricist temper regnant and the rationalist temper sincerely given

[1] See F. C. S. Schiller, *Studies in Humanism*, p. 361.
[2] *The Will to Believe*, especially chap. I.

up. It means the open air and possibilities of nature, as against dogma, artificiality, and a pretense of finality in truth.[1]

Everything moves and changes

In the older philosophy there was much talk about certain ideas, such as God, Matter, Reason, the Absolute, the Soul. These ideas were ultimate, and we felt that we could rest in them. But the Pragmatist does not take this attitude toward them. He does not want to rest. He inquires as to their cash value. He will put them to work and see what consequences they may yield. If they will not work, they are not true. "Pragmatism unstiffens all our theories, limbers them up and sets each one at work." In actual life we have always to deal with definite concrete situations, and these situations are to be met and solved on their own merits — not on abstract traditional principles. Life is a maze through which we are threading our way as best we can, finding the path as we go along. Answers which solved former situations will not solve this one. Everything changes, grows, develops; nothing is fixed, static, final.

Even moral laws change; they grow and become perfected. There are no fixed or final moral laws and no eternal principles either of conduct or knowledge. Reality is in the making; you and I are making it. The road to the future is an open road, obstructed by no overruling providence or limiting fates, and determined by no *a priori* principles of thought. Reality is found in the flow of experience. The world is moving toward no predetermined end; each hill is surmounted as it comes into view. What happens next is not determined, but is contingent upon what has happened. Life is a series of problems to be solved — a succession of real struggles with real difficulties. *To think* is to deal effectively with these problems — and ideas are tools to help in the solution.

Reality is fluid, changing, evolving. Pictures of a God-made, perfect world, governed by eternal principles of justice or by eternal mathematical laws, are just fancies. Leibniz' theory of the world as the best of all possible worlds is false. The only

[1] William James, *Pragmatism* (Longmans, Green and Company), p. 51.

real world is the world of real experience. James mentions the case of a man with a wife and six children to support. The man was out of work and tramped for days through the snow searching for work in vain and then returned to find his family starving and a notice of dispossession on the door. He committed suicide by drinking carbolic acid. This is a piece of reality, but it does not mean that reality is bad. Reality is just experience, and this is a part of experience.

The spirit of Pragmatism is the spirit of youth, adventure, and experimentation; it has no patience with idle vaporings about fate and destiny. No philosophical ideas are true which cannot be put to some practical use. Take such words as *God, free-will,* or *design.* Other than practical significance, says James, they have none. "Yet dark though they be in themselves, or intellectualistically taken, when we bear them into life's thicket with us, the darkness *there* grows light about us. If you stop in dealing with such words with their definitions, thinking that to be an intellectual finality, where are you? Stupidly staring at a pretentious sham. Pragmatism alone can give a rich meaning to them. God's in his heaven, all's right with the world."

Pragmatism is thus the forward-looking philosophy of hope and promise. Take, for instance, says James again, that ancient controversy between Materialism and Idealism. In themselves the two rival theories have no significance. Suppose the world to be now ending, having no future. What possible difference would it then make whether it is the product of blind mechanical energies or of living divine spirit? None whatever; the old controversy is dead. But now, with the Pragmatist, suppose the world to have an undetermined future. Then, indeed, it *will* make a difference whether we are Materialists or Idealists. For according to Materialism the blind forces which have built up the world will certainly destroy it. We must look forward sometime to a dead world, from which all hope is gone, and in which all ideals have perished. But if Idealism is true, if there is a God in the heaven, somehow the *good* will survive; we are assured of an ideal order that shall be permanently preserved.

Or take again the free-will controversy, that old and useless

puzzle that admits of no solution. For the Pragmatist who believes that the world is in the making and nothing ordained, all at once is changed. For the future it will make a lot of difference whether we believe in free-will or determinism. Freedom now becomes true because of its successful leading. "Free-will pragmatically means *novelties in the world*, the right to expect that in its deepest elements as well as in its surface phenomena, the future may not identically repeat and imitate the past." [1]

Thus far Pragmatism seems tremendously stimulating. It gives to philosophy a life and movement which other systems lack. It is refreshing when philosophy is brought down to earth in this way and put to work. It is comforting to learn that all our experiences are integral parts of reality. But all this is only a manner of *approach* to philosophy, just a method. We are impatient to learn what the Pragmatist actually believes about the things usually studied in philosophy, about reality, about God, the soul, purpose, causality, knowledge, evolution, conduct.

I am afraid we shall be somewhat disappointed in the answers which the Pragmatist gives to these questions. His very purpose is to shift the interest away from some of these problems to those of practical importance. We must keep in mind that Pragmatism is a doctrine of logical method — not a theory of the Universe; and the Pragmatists, so far as they have ventured out into the field of metaphysics, have usually done so in order merely that they might find examples to illustrate their method. In demanding of them a philosophy of the world in general, we are asking more than they have promised to give. It seems, however, at least at first sight, that in their theory of radical empiricism they have ventured into metaphysics, trying to tell us what reality is. This we must now notice.

Radical empiricism

The view that philosophy is limited to actual experience brings us to one of the cardinal doctrines of Pragmatism, taking the

[1] William James, *op. cit.*, pp. 118, 119.

form of *radical empiricism* with James and *immediate empiricism* with Dewey. If philosophy is to divest itself of all the excrescences that have accumulated through the ages, if it is to be concrete, vital, and real, it must start with something *actual;* and immediate experience is the only actual reality. Matter and spirit, body and soul, subject and object, *a priori* rules of thought or conduct — all these are too far away, too abstract, too unreal. Philosophy cannot begin with them — can perhaps have nothing to do with them. It has to do only with experience; the world is a world of pure experience.

To-be and *to-be-experienced* come to the same thing. Things *are* what they are *experienced* as. Everything that we experience is equally real. Even illusions are real; they are *ideal,* as contrasted with *actual* realities. In this "immediate empiricism," as Professor Dewey calls it, our philosophy is fundamentally grounded. Reality *is* experience. These two words describe the same whole from different points of view. "Reality" emphasizes the content of experience. "Experience" emphasizes the process of reality. The one states *What* experience is, the other *How* it proceeds. Physical science has dealt so exclusively with the What, the content, that it has come to treat the facts of the universe as if they existed independently of the process. Psychological science has treated mental process in abstraction from its physical conditions and results, until it has come to assume the existence of a separate world of mind or consciousness distinct from its content. The truth is that there is but one reality: the content of experience. There is but one experience: the process of the evolution of that content. We know nothing of what "things" are in themselves, apart from a possible experience. There are no "thoughts" in the abstract. Things are the contents of thoughts, while thoughts merely represent the internal metamorphoses of things.[1]

Now here the trouble begins. Up to this point all has been plain sailing. Pragmatism as a method seems wholesome and sane. But to say that reality and experience are identical seems to plunge us into the very metaphysics from which we were supposed to be rescued. How can any sane man, perhaps the reader will ask, affirm that all reality is experience? That all experiences are real is one thing and very true; but that all realities are

[1] H. Heath Bawden, *The Principles of Pragmatism* (Houghton Mifflin Company), pp. 55–56.

experiences is quite another thing and apparently not true. Do the Pragmatists mean that all reality is somebody's experience? If so, we seem to be thrown back into the subjective Idealism from which we supposed that all virile modern philosophies had escaped. If, on the other hand, they mean that all reality is just experience in general, we seem to need to have the word defined. What does the word *experience* mean in its simple and obvious sense? Why, surely, it means that something happens to somebody and somebody does something. It is a term that has no application outside the circle of sentient beings. It is confined to the biological world, meaning that an organism, an animal, or a man feels something and does something. We do not say that a stone rolling down the mountain and colliding with a tree has had an experience. Philosophy, of course, is very much interested in the biological world, especially in man, his origin, destiny, and knowledge. But its interests are not limited to man or to animals; it is interested in the physical environment, in space and time, in God and the primeval energy, in stars and star clusters, in the causal relation and in relations of all kinds. And, furthermore, even if we confine our study to man and his experiences, to the things he does and suffers and the way he attains his ends, we certainly wish to know what man himself *is*, and how he came to have any wishes or ends or experiences. What do the Pragmatists mean by saying that everything is *experience*, and that everything *is* what it is *experienced as?* Why have they involved us in this metaphysical tangle?

Unfortunately, I am afraid that we shall not get a very satisfactory answer to these questions from the writings of the Pragmatists. Although the charge of subjective Idealism has repeatedly been laid at their door, and although numerous passages in their writings seem to admit of no other interpretation, nevertheless, they repudiate vigorously any subjectivism of the Berkeleian type, and constantly speak in a very realistic and common-sense way of the reality of the world beyond human experience.[1]

[1] There has been a long and not very profitable discussion in philosophical journals as to whether Pragmatism is idealistic and subjectivistic, the outcome

Dr. Bawden, for instance, treats the whole subject very naturalistically, speaking of cosmic energies and their redistribution, and the evolution of organisms, but the significance and reality of everything is after all determined by the conditions of knowledge. Every act of knowing changes the thing known, because the thing enters thereby into new and significant relations. All things are interconnected. The dynamic functional view must prevail everywhere. "Experience is primarily activity, process — something going on." Dewey again quite naturalistically takes for granted a real organism with its real inherent desires and makes it his task to show the significance of ideas, intelligence, and knowledge in the evolution of the life of the organism.

As for James, I think he did not mean that all reality is experience, but that "the only things that shall be debatable among philosophers shall be things definable in terms drawn from experience." He was concerned with the problem of analyzing experience to show that it does not imply any *a priori* categories, or substantial soul, or consciousness as an entity. He was desperately anxious to escape from all the old puzzles of subject and object, and the old dualism of mind and body. All these oppositions are not to be solved by calling in any higher unifying agent from some spiritual realm or some sphere of pure reason. The difficulties disappear if we regard these various oppositions as just different kinds of actual relationships, which really exist between the terms of experience. From this radically empirical standpoint even the old opposition between the mental and the physical disappears, for it depends upon the context into which the neutral stuff of pure experience gets, whether we call it mental or physical.

On the whole, it seems unfortunate that the Pragmatists should have insisted that all reality is experience. It has led to much misunderstanding. Their problem is psychological and epistemological rather than metaphysical. They want to show by the

of which seems to be that there is nothing in *essential* Pragmatism inconsistent with a realistic view of the world. A clear summary of the reasons may be found in four articles by W. P. Montague in volume VI of the *Journal of Philosophy, Psychology, and Scientific Method*, but Montague does not think that the Pragmatic *theory of truth* is consistent with Realism.

analysis of pure experience what knowledge does and does not imply. But you and I may be interested in fields of reality quite outside these provinces and may be wholly unwilling to admit that all reality is experience in any sense of the term.

Instrumentalism

A further glance at that kind of Pragmatism called *Instrumentalism* will help us to understand why there is so much emphasis upon experience. The Instrumentalist is a biologist and an evolutionist. He is interested in showing how knowledge has arisen in the evolutionary movement, and in pointing out the function of intelligence. He therefore assumes outright the presence of the organism with its vital interests — its will-to-live, as you or I might say — and he assumes the presence of a real environment consisting of natural energies. Experience, then, is the intercourse of the living organism with its physical and social environment.[1] The questions why organisms exist, what they are made of, why they come to be organisms, why they strive and wish to live and propagate their kind, seem to many students of philosophy exceedingly interesting problems belonging properly to their field; and hence, since the Pragmatists in their theory of knowledge put so much stress on biological needs, one is apt to feel impatient with them for not *grounding* these biological needs more deeply.

The Instrumentalist, then, taking for granted the organism and its needs, goes on to show by the analysis of experience how such things as thought, reflection, intelligence, ideas, and concepts may be explained. He shows that the environmental energies are sometimes friendly and sometimes hostile to the good of the individual. The latter, therefore, is confronted with the task of controlling and moulding the environment to his own welfare; he must achieve the good and avert the evil. In such an enterprise, memory, imagination, reflection, and thought will be of priceless advantage in the struggle for existence, and by Darwinian laws will be encouraged and preserved. Thought is not a process of reduplication or copying of a determinate objec-

[1] See *Creative Intelligence*, p. 7 ff.

tive world, but a process of experimenting with it, changing it, moulding it to suit one's vital demands.

We are not to think of experience as the expression of any psychical entity or subject, such as a soul or spirit or consciousness. It is rather the interaction of organism with environment. Ideas are not psychical entities or subjective representations of an objective reality; they are plans of action, taking into account future consequences with reference to the weal or woe of the organism. By intelligence is meant just this ability to organize responses with constant reference to future consequences.

The process of intelligence is something that goes on, not in our minds, but in things; it is not photographic, but creative. From the simplest perception to the most ideal aspiration or the wildest hallucination, our human experience is reality engaged in the guidance or control of behavior. Things undergo a change in becoming experienced, but the change consists in a doing, in the assumption of a certain task or duty. The experiential object hence varies with the response; the situation and the motor activity fit together like the sections of a broken bowl.

The bearing of this standpoint on the interpretation of psychology is readily apparent. If it be granted that consciousness is just a name for behavior that is guided by the results of acts not yet performed but reflected beforehand in the objects of experience, it follows that this behavior is the peculiar subject-matter of psychology.[1]

Purpose and Conflict

Two things stand out prominently in the pragmatic psychology; first, the purposive character of thought, and, second, the importance of conflict. All thinking is purposive. Pragmatism itself is defined by Schiller as "the thorough recognition that the purposive character of mental life generally must influence and pervade also our most remotely cognitive activities." Pragmatism is thus thoroughly teleological, not in the wider sense of a cosmic purposiveness, but in the sphere of mental life. It is what we may call a teleological voluntarism.[2]

The notion of conflict is equally important. Our whole con-

[1] Bode, "Consciousness and Psychology," in *Creative Intelligence* (Henry Holt and Company), p. 255.

[2] Compare F. C. S. Schiller, *Humanism*, p. 8.

scious life arises in conflict, where a difficult situation has to be surmounted, where a problem of readjustment has to be solved. We may conceive that consciousness itself arose when some animal awoke to the discovery that the old habitual responses were not adequate to the new difficult situation. A sudden interruption of the even flow of vital functions made it necessary for the animal for the first time in his life, or the life of his kind, to do some thinking, to awake to consciousness — to sit up and take notice. So Pragmatism reverses the old belief that first comes the soul, and then the soul thinks. Quite the contrary, the soul is born in thought and thought is born in struggle and in tension. But the significant and joyful fact remains that the difficulty *is* overcome, the problem *is* solved. Pragmatism is thus the forward-looking philosophy of promise and fulfillment.

Hence it comes about that intelligence is creative. It is constantly moulding and making reality. But this creative force is always a process of experimentation. It is different from the creative work of the artist, who is striving to approach to some pattern or ideal.

What is truth?

We have left till the last the mention of one of the most distinctive of the pragmatic doctrines, the theory of truth. It is this which made Pragmatism famous — some would say, infamous. I should regard it as the least important of the contributions which have come from this movement. It is the striking and paradoxical character of the theory which has brought it into such prominence.

In order to understand this doctrine of truth, it would be a good plan for the reader to lay down this book and ask himself the question, What *is* truth? What does the word *truth* mean? What do we mean by saying that a proposition is true or false? The statement that the shores of New England are bathed by the waters of the Pacific Ocean is said to be false. Why? That they are bathed by the waters of the Atlantic is true. Why?

The correspondence theory

I suppose the answer would be something like this: Truth is that which *conforms* to fact, which *agrees* with reality, which *corresponds* to the actual situation. This is called the *correspondence theory of truth.* It is the view of the so-called plain man, who distinguishes the fact from the statement of the fact, and when the statement corresponds with the fact, then it is true. The reason, then, that the statement is true that the shores of New England are bathed by the waters of the Atlantic, is that this statement corresponds with the facts. Before any one ever made this *judgment,* the waters of the Atlantic did actually bathe the shores of New England.

Now, all sorts of objections may be made to this definition of truth. The difficulties in defining truth were known long before Pragmatism exploited them. It is said, for instance, that it is impossible to compare a judgment or statement with external reality. You can lay your yardstick alongside a board and observe whether they correspond, but you cannot lay a judgment beside a fact to see if they correspond. Does it mean anything to say that a judgment "corresponds to" a fact, or that it "copies" external reality?

Furthermore, it is complained, it is mere tautology to say that a judgment, such as the rose is red, corresponds to the fact, for facts themselves are merely cases of knowledge. The fact and the truth are the same thing, so that it is useless to say that truth is correspondence to fact.

Now, in recent years, as a result of the pragmatic theory, a whole new literature has sprung up relating to the meaning of the word *truth,* a discussion altogether too technical to be of interest to us in this brief chapter. It will be possible here only to state the other theories of truth, particularly the pragmatic theory, intimating to the wise reader that a whole course of study would be necessary before he could decide between the rival views. Meanwhile, if one wishes to *tell* the truth, there is not much difficulty in knowing what it is.

Concerning the correspondence theory of truth, however, it may do no harm to say that, in spite of its difficulties, it is prob-

ably more widely held by philosophers and scientists who have given thought to the subject than any other theory. Possibly the word *fidelity* may be preferable to the word *correspondence*. Truth, then, would be defined as fidelity to objective reality, and I do not see that any serious difficulties need arise with this definition.

Let us make the postulate, harmless as such, that there are real independent things, such as oceans and shores, suns and planets, roses and qualities of roses. Let us suppose that these things with their relations and their qualities really existed before there were any sentient beings to observe them, or reasoning men or quarreling philosophers to make judgments about them. Then suppose such reasoning beings should come and observe these things and invent language to designate them and their relations and qualities, and should then say, for instance, that the sun is larger than the earth. Such a judgment would be a faithful one, and such fidelity might be called truth. It should be observed also of the fidelity theory of truth that this or something like this is what the word *truth* means in common usage; so that if any one uses the word *truth* in a wholly different sense, this fact should be made perfectly clear.

The coherence theory of truth

Owing to the difficulties in the correspondence theory, another view has been propounded to the effect that truth is *consistency*. What do we mean when we say that a theorem in geometry is true? Here we do not mean primarily that it corresponds to objective reality, but that it fits perfectly into a certain system of other theorems, propositions, axioms, and definitions. There is perfect coherence, and this coherence with other certain and accepted things is called truth.

Undoubtedly the word *truth* is used in this narrower sense. If we start with premises that are true in some other sense of the word *truth*, and if our conclusions are logically drawn, we call our conclusions true. In geometry we start with a few axioms and definitions, and proceeding logically, the whole system will be true, or as true as the initial assumptions. But this is evidently not what we mean by *truth* in common usage as it is ap-

plied to judgments of matters of fact. Indeed, it would seem to be possible to have a whole consistent system of falsehoods. For instance, Johnny's mother tells him not to go in swimming; but he goes and then tells her that he did not go, and then, buttressing his statement with that of his pals, builds up a chain of evidence to support his lie that makes it seem to his mother to be a coherent and consistent system, his own statement fitting in perfectly with all the other elements in the situation. All the parts of this system are coherent, and yet we could not say that the various statements are true. If we say that the several parts are not coherent with the original act, then we are going back to the correspondence theory. Certainly, however, consistency is an element in some kinds of truth. A group of propositions is not up to the ideal of truth, if the propositions are not internally consistent. The consistency theory and the correspondence theory supplement rather than contradict each other. Perhaps the simplest and best view is just this, that truth is fidelity to reality; but since in innumerable cases we cannot compare our ideas and judgments with reality, the best we can do is to see if they are *consistent* with other ideas and judgments which we have accepted as true.

The pragmatic theory of truth

According to the Pragmatist, who starts with the mere flux of experience and finds reality in this flux, the two older theories of truth seem to have no application. Possibly, also, the Pragmatist, in working out his new theory of truth, has been influenced by the Idealist's belief in something called *absolute truth*, the notion that there is somewhere laid up a body of truth that is sacred and unchanging. Now, the Pragmatist is not friendly to the notion of the absolute in any form. At this point it does not occur to him to drop the word *truth*, since his system has no place for it in any sense in which it has commonly been used; but he proposes to redefine *truth*, giving it quite a new and unexpected meaning.[1]

[1] James, harassed by his critics, did finally propose to leave the adjective *true* for the older notion and adopt the word *truthful* for the pragmatic one. (See *The Meaning of Truth*, p. 225.)

To make clear the pragmatic theory of truth, let us begin by inquiring, first, not about the *nature* of truth, but about its criterion. This is not the question of what truth is, but how we are to know it, how it is to be tested. The world is full of theories, hypotheses, general opinions, and guesses, where direct verification by an appeal to observed facts is not possible. Various criteria of truth have been proposed in ancient and modern times, such as "irresistible conviction," "inconceivability of the opposite," "presenting itself to the mind with such clearness and distinctness that it cannot be doubted." Now, the Pragmatist proposes another criterion, and a very practical one, to the effect that any theory or hypothesis or idea is true, *if it leads to satisfactory consequences*, if it works out in practice, if it has practical value. Truth is revealed by its usefulness, by its fruits, by its practical consequences. Value becomes the measure of truth. Truth works in the long run, and if any idea or theory works, we may suppose it to be true. Satisfactory working, fulfillment of function, successful leading, are the marks of truth.

Now there seems to be nothing very revolutionary or strange about this. It is reasonable to suppose that truth in the long run will lead to good and satisfactory results; and usefulness, while it may not be the sole criterion of truth, or an infallible one, still is a good practical test.

But, unfortunately, the Pragmatist does not stop with this wholesome doctrine. He goes on to say that workableness is not merely the *test* of truth, it is the *nature* of truth. You and I, perhaps, took it for granted that the nature of truth was its agreement with reality and anything which agrees with reality will probably lead to satisfactory results in practice; so that, if it leads to such results, it is probably true. But the Pragmatist — that is, the extreme Pragmatist — says that the usefulness of truth is all there is to it. Truth *is* that which works. "True ideas," says James, "are those that we can assimilate, validate, corroborate and verify. False ideas are those that we cannot." "The truth of an idea is not a stagnant property inherent in it. Truth *happens* to an idea. It *becomes* true, is *made* true by events. Its verity *is* in fact an event, a process; the process

namely of its verifying itself, its veri-*fication*. Its validity is the process of its valid-*ation*." [1] Hence it follows that ideas and judgments are not true until they are verified, and their verification consists in their leading to satisfactory consequences. If the statement is made that there is another planet within the orbit of Mercury, the statement is neither true nor false, but becomes so in the process of verification or non-verification.

This theory, propounded by the Pragmatist, that truth is what works well in practice, that it is a kind of expediency, met with a storm of criticism and disapproval. It was only the eminent character of its proponents that gave it a wide hearing. Hitherto truth had been regarded as something cherished and, in a way, sacred, as something definite and stable, at least as stable as the things about which the truth was asserted. The statement that there is another planet within the orbit of Mercury was, it was supposed, either true or false when it was made, depending upon the actual constitution of the solar system. Hence the pragmatic notion of truth as something that happens to a judgment in the course of its verification came as a kind of shock to students of philosophy. This extreme form of the theory has been difficult to defend, and it has been modified in many ways by later writers of the school.[2] It seems possible to maintain it only on the basis of a subjectivist philosophy. When it is still maintained, it is evident that the word *truth* is used in a sense different from its generally accepted meaning.

Pragmatists are very fond of speaking of the truth of ideas, rather than of judgments, and, since ideas in pragmatic philosophy are merely "plans of action," just what do they mean when they say that they are true? A plan of action might be a good plan or a bad plan, but we should hardly speak of it as true or false. If a town were threatened by a flood and some one proposed a plan of action, his fellow townsmen would not

[1] William James, *Pragmatism*, p. 201.

[2] A useful summary and criticism of the pragmatic theory of truth may be found in D. C. Macintosh's *The Problem of Knowledge*, pp. 401–37. No one interested in this discussion should fail to read the book, *What Is Pragmatism?* by James Bissett Pratt, especially lectures II and III. Compare also the keen criticism of James's theory of truth by G. E. Moore in his book, *Philosophical Studies*, chap. III.

ask whether the plan was a *true* one, but whether it was a *good* one or a *feasible* one.

So it all seems to come to this: If the Pragmatists mean that satisfactory working is a test or criterion of truth, the view is as wholesome as it is old and innocent.[1] If they mean that ideas or judgments as plans of action are true because of leading to satisfactory consequences — that is, find their truth in the satisfactory consequences — they are using the word *true* where other people would use the word *good;* and a lot of trouble and misunderstanding would have been avoided if the Pragmatist had used the word *good* or invented some other word expressing value. The *test* of truth is one thing; the *structure* or *nature* of truth is quite another.

The whole controversy is coming now to have only an historical significance, since later pragmatic writers seem to recognize, though perhaps guardedly, the validity of the correspondence theory, at least within limits.[2] What the Pragmatists were alarmed at was the absolutist doctrine of a body of unchanging truth laid up, so to speak, in the heavens. Possibly now Pragmatists and others could agree that individual perceptions and judgments are true when they are adapted to the facts of the environment,[3] emphasizing as Schiller does that the reality which

[1] Of course, satisfactory working is not even an infallible test. Take again the case of Johnny and his mother. Johnny goes in swimming and derives great *satisfaction* from the adventure. On returning home Johnny's mother asks him if he has been in swimming, and he says "No," and offers a wholly plausible and *satisfactory* explanation of his absence. Johnny's mother unreservedly accepts this explanation and gets great *satisfaction* from the supposed veracity of her offspring. Johnny's companions in the adventure, who know the whole situation, derive much *satisfaction* from it all. Johnny's bath resulted in very *satisfactory* hygienic conditions, and on Saturday night Johnny's mother, after an examination of Johnny's arms and legs, derives an increased *satisfaction* from Johnny's increasingly cleanly habits. Hence, if truth is that which leads to satisfactory results, Johnny's statement that he did not go in swimming must have been true. And if, to escape this difficulty, the Pragmatist adds that the statement is true "in so far forth," then the whole thing reduces to the truistic result that satisfactory working is a help in the discovery of truth.

An illustration of this kind is of course a parody on the pragmatic doctrine of truth and is only justified in silencing those who have attempted to make *emotional* satisfaction rather than logical satisfaction the test of truth. Logical satisfactoriness can hardly be distinguished from consistency as a criterion of truth.

[2] Compare Murray's *Pragmatism,* pp. 45, 46.

[3] Compare the clear article by Montague in *Jour. of Phil., Psych., and Sci. Meth.,* vol. VI, pp. 233–38.

philosophy seeks is a *selected* reality. God, matter, purpose, and such concepts are the selected portions of reality which philosophy considers best worth knowing.[1]

The permanent contributions of Pragmatism

It is a little difficult as yet to estimate the actual contributions to philosophy of this new movement. It has certainly done good service in again calling philosophy down from the heavens to the hearths and homes of men. Philosophy hitherto had been very much an avocation of a few select "highbrows," who frequented college and university classrooms, distant from the practical interests of common men. The recent widespread revival of interest in philosophy has been partly due to the work of the Pragmatists. People who shivered at the very name of philosophy, confusing it with the Hegelian dialectic or the Roycean Absolute, now began to study Pragmatism, and entering through this gate, found philosophy interesting and helpful. If we are shocked at the extravagances and paradoxes of the Pragmatists, it is well to remember that nothing but a jolt like this would have brought philosophy down to earth.

Particularly was the theory of knowledge a dark and forbidding field for any but the elect. The very word *epistemology* suggested something quite awful. Dewey, by showing that all those different and difficult things like concepts, ideas, syllogisms, thought, and imagination, are merely practical instruments for solving the problems and perplexities of life, and are quite naturally evolved as new powers which animal organisms develop when new conditions arise, has brought the whole subject within the comprehension of practical-minded men. The genetic treatment of knowledge has thrown a lot of light upon this difficult chapter in philosophy. Much of the mystery has been removed from a long list of psychological terms, such as thought, intellect, reflection, imagination, mind, and consciousness, fitting them into the general evolutionary scheme. Pragmatism has become a live branch of philosophy because it emphasizes the things which everybody is interested in now — evolution, growth, will,

[1] Compare F. C. S. Schiller, *Humanism*, chap. III.

purpose, initiative, practical results, human hopes and desires, human progress. It was fully time for a reaction against the excessive intellectualism of preceding systems, and Pragmatism represents this reaction in its extreme form.

Another fine thing which the Pragmatists have done is to call our attention to the creative power of the human mind, or creative intelligence. It has been a revelation to many that a philosophical system which is at once strongly evolutionary and naturalistic may still speak of the creative mind, of new ethical and social ideals, of indefinite moral and social progress. People had thought of naturalism and evolution as associated with materialism, determinism, and fatalism, as though man were helpless in the face of mechanical forces, as though he were a puppet awaiting his fate at the hands of the physical forces of the Universe. Pragmatism teaches that the world is in the making and you and I are making it, and that there is no limit to our effective agency. Even moral laws change and may be much improved.

What has been called *Essential Pragmatism* seems to me to be a genuine philosophy of life. In its early enthusiasms, however, it was beguiled into extreme positions,[1] and so plunged us into a lot of hair-splitting dialectic which would put the old Schoolmen to shame. As examples of such positions may be mentioned, first, the extreme pragmatic doctrine of truth, with the unhappy dialectical entanglements which followed; and, second, the identification of experience with reality. There must be something wrong with Pragmatism when it has to labor so hard against the imputation of solipsism. Some Pragmatists must have lapsed into a terminology altogether too subjectivistic.

But something is lacking

What seems to be lacking in Pragmatism is a high idealism. There is too great an emphasis upon the striving and not enough upon the goal. The pragmatic world view seems confined to that particular part of reality which begins with the organism

[1] James, himself, to whom Pragmatism owes almost its very life, was one of the worst offenders in this respect.

already in possession of certain unexplained interests and desires, and is concerned only with the means of satisfying these desires. Thought becomes a mere tool for satisfying our vital demands without a sufficient examination of the demands themselves. The Pragmatists have frequently resented, and perhaps with much justice, the imputation that they hold a narrow utilitarian view of life; and Dewey speaks of the "intrinsic, æsthetic, and immediate value of thought and of science," and of the joy and dignity of life which intelligence adds.[1] But intelligence is never really considered as a goal, but only as a guide. What it is a guide to, no Pragmatist seems to know. We are exhorted to have faith in intelligence as the savior of men; but what we are to be saved from, or what we are to be saved for, is not made clear.

Is the empiricism of Pragmatism, after all, deep enough? Do not men instinctively strive toward a goal rather than search for some instrument for increasing their satisfactions? Pragmatism boasts of being fundamentally teleological, of always turning toward the future, and yet the end is never clearly defined.

The Pragmatists in reacting from the old intellectualism, which looked upon the intellect as an oracle, have come to regard it as a mere tool or contrivance, in which the will is nothing but a will-to-live, not actuated by any lofty purpose nor pursuing any sublime ideal, but tinkering with its environment in order to find *some* way through, endlessly trying experiments to see if *some satisfaction might happen*, and always retreating if vital needs are not enhanced. This may all be true, but *it certainly is not the way it feels to be a man*, and it certainly is not the notion of the human spirit that has been handed down to us by our fathers — even in this utilitarian America. Dewey, to be sure, speaks about social welfare as the end and aim of philosophy, but vaguely and obscurely as it seems to me. One gets the impression that it is just the satisfaction of biological needs which con-

[1] See his article on the "Development of American Pragmatism," in the *Revue de Métaphysique et de Morale*, October, 1922. Manuscript translation by Herbert W. Schneider.

stitutes social welfare. And, indeed, it does not seem to me that philosophy exists for the sake of social welfare. Philosophy and science, religion and art, are themselves ends to be attained in any perfect society.

There is certainly some justification for Windelband's severe criticism of Pragmatism, when he says that it is "a grotesque confusion of means and ends." "It represents a victory of noetic individualism which, in the decay of our intellectual culture, would release the elementary force of the will and let it pour itself over the realm of pure thought. It calls into question one of the greatest achievements of civilization, the purity of the will to truth." [1]

The great things of the world have been done by men who were inspired by great ideals, ideals of justice, righteousness, beauty, and truth. These lofty ideals are not something to be made and then tested by their satisfactoriness; they are something to be attained. Beauty which exists just to be *appreciated*, truth which exists just to be *contemplated*, laws of nature which just have to be *discovered* and *wondered at*, ideals which just have to be *aspired to* — all these great things would seem to have no place in pragmatic philosophy, which is too subjective. *Something eternal must draw us on.*

In connection with this chapter read:

William James, *Pragmatism.* (Longmans, Green and Company.)

Arthur Kenyon Rogers, *English and American Philosophy Since 1800* (The Macmillan Company), chap. VII, "Pragmatism."

Further references:

James Bissett Pratt, *What Is Pragmatism?* (The Macmillan Company.)

A. W. Moore, *Pragmatism and Its Critics.* (The University of Chicago Press.)

John Dewey and others, *Creative Intelligence.* (Henry Holt and Company.)

F. C. S. Schiller, *Studies in Humanism.* (The Macmillan Company.)

David Leslie Murray, *Pragmatism.* (Constable and Company.)

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[1] Wilhelm Windelband, *An Introduction to Philosophy.* Translated by Joseph McCabe (T. Fisher Unwin), p. 175.

Edward G. Spaulding, *The New Rationalism.* (Henry Holt and Company), chap. xxxiii.

A. O. Lovejoy, "The Thirteen Pragmatisms," *Jour. of Phil., Psych., and Sci. Meth.*, vol. v, p. 5.

John Dewey, *The Influence of Darwin on Philosophy* (Henry Holt and Company), *Essays in Experimental Logic* (The University of Chicago Press), *Human Nature and Conduct* (Henry Holt and Company).

Josiah Royce, "The Problem of Truth in the Light of Recent Discussion," in *William James and Other Essays.* (The Macmillan Company.)

Bertrand Russell, *The Analysis of Mind* (George Allen and Unwin, Ltd.), lecture xiii, "Truth and Falsehood."

CHAPTER XXII

THE HIGHER VALUES OF LIFE

Moral Values

What is the Highest Good? What is Most Worth While? What is Right and what is Wrong, and why is Right right and Wrong wrong? What are the grounds of Moral Judgment? These are old questions which men have asked ever since philosophizing began. They introduce us to the problem of conduct, the subject of the science of ethics, the most important of all the sciences.

A practical science

A moment's reflection will show that this is a different kind of problem from those we have been studying. Hitherto we have been wondering about reality, about the constitution of the world and of the mind. We have been prying into the nature of things, into the texture of reality. Now, when we take up the Theory of Morals, we seem to be engaged in the study of a practical question, a question of values. We seem to be inquiring no longer about the truth of things, but about their *worth* or *goodness*, and particularly about the worth or goodness of a certain class of things, namely, human actions. In psychology we study human behavior *as it is*. In ethics we also study human behavior, but now from a wholly different point of view, namely, that of *approval* or *disapproval*.

Since ethics has to do with practice, it has been called a practical science. Sciences which are concerned with a knowledge of facts are sometimes called theoretical or natural sciences, such as biology, psychology, chemistry, physics. Sciences which are concerned, not with a knowledge of facts, but with *ends* to be gained or *values* to be realized, are called *practical* or *normative* sciences. There are three general sciences of this kind, logic,

ethics, and æsthetics, and many special ones, such as medicine, agriculture, metallurgy.[1]

Now, in most practical sciences, such, for instance, as medicine, there is a perfectly definite end to be gained, namely, the conservation of health. Likewise the end is clear and definite in other practical sciences, such as agriculture or horticulture, and the rules and regulations for attaining this end are quite well understood. But in the case of that practical science called ethics neither the end to be gained nor the means of gaining it is wholly beyond dispute. Hence it presents a problem in philosophy. It seems strange, does it not, that while in all the lesser practical sciences, such as the ones mentioned, we know just what we wish to accomplish, in ethics, the practical science of human conduct in general, we do not know just what end we seek to gain? Some have said that what all men wish to attain is *happiness*, while others have said that it is not happiness, but *virtue;* while still others have thought that it is *self-realization*, or peace, or obedience to the *voice of duty* or to conscience, or to the *will of God.*

We are evidently engaged here in studying, not *behavior*, as in psychology, but good and bad behavior; that is, conduct. Matthew Arnold said that conduct is three fourths of life, which means, I suppose, that three fourths of the time our behavior is either good or bad. So we have to find out what makes behavior good or bad.

When we were children our parents told us that some actions were *right* and some were *wrong* and that we "must not" do the wrong things, and "must" do the right ones. We discovered, however, that we were *free* to do the wrong things, if we chose, and often did so, and then some kind of punishment was apt to follow. In our early philosophical moods perhaps we asked ourselves why some actions were called right or good, and some wrong or bad; and possibly we were told that wrong was what God forbade and right was what he commanded. And this

[1] This distinction should not be pressed too closely, for any such practical science as ethics is also theoretical, since it investigates the general principles of conduct and the origin and meaning of conscience. This is no doubt true also of all the practical sciences.

answer probably satisfied us for a while, but afterwards we began to inquire why God commanded certain things and forbade others.

Then also there is the question of *duty*, that curious feeling of obligation — the "ought" feeling. Even granting that there are certain actions that are right and others that are wrong, why *ought* I to do the right, and whence that strange feeling of duty? They used to tell me that it was the voice of conscience. But what is conscience? Is it an infallible guide that I should follow, and if so where does conscience get its authority?

How not to study this subject

Probably there is no chapter in philosophy so important as this one relating to the theory of conduct. It has more than a theoretical interest satisfying our thirst for knowledge; it bears directly on our own manners and morals. And yet it is very easy for the student to study it in a merely academic manner — and fail to see its practical bearing. He will cheerfully assent to the professor's conclusion that the highest good is service or love or righteousness or self-realization or duty, and straightway go out and pursue some other highest good without feeling the slightest need of making any mental readjustment at all.

But there is a way to avoid perfunctory study of this kind, and that way is for the student or the reader to try to think the problem through on his own account before listening to any "oracles" or reading any books on the subject. Never mind about the question of the Highest Good — just ask yourself, "What are the actual *bona fide* higher values in my own personal, present, or prospective life?"

Another way to see the practical bearing of this subject would be to imagine that a new community was to be started on some far distant island, and that you and I were delegated to draw up a constitution for such a community and plan a set of institutions for it and a system of education. We could not do all this without first getting pretty clearly in mind what we wished to attain. Offhand we should probably say that what we wished to attain was the happiness of the people. This general phrase might sat-

isfy us until we began to reflect upon it carefully. Then we should find that it is not sufficiently definite. Simply to make all the people happy all the time would be an ideal that would probably not appeal to any social reformer.

The State Superintendent of Public Instruction stopped me in the hall one day and said that he wanted some one to write a paper on the philosophy of education. After some questioning I found out that, having served certain years in his high office, he had finally come to the conclusion that it is useless to work over courses of study and methods of teaching until it is first clearly determined just what is to be accomplished for the young people. The philosophy of education is really the philosophy of life. Seen in this light the old problem of the highest good takes on a very practical aspect.

Do ants and bees have duties?

How shall we approach the difficult subject of human conduct? There have been many schools of ethical theory and many diverse views. How can we find our way through this tangle of opinion?

It may be helpful to simplify the subject by studying it in the form presented to primitive men living in simple communities; or it might be even better to go back to the life of lower animals, especially those living in social groups like the ants and bees. Do they have "duties," "moral obligations," and "moral laws?" Do they act "rightly" and "wrongly"? Do they have a "highest good"? Whether or not any of these terms may be applied to the behavior of these insects, they certainly exhibit in their instinctive actions a very high degree of *coöperation* toward a certain end; and that end is the *well-being* of the swarm or colony; and this well-being would seem to consist in the prosperous and continuous life of the species. These animals like all others seem to be concerned very much with three things, food, protection, and reproduction — in one word, *life;* not the life of the individual which is often ruthlessly sacrificed, but the life of the group; and not merely the life of the immediate group, but of the present and succeeding generations. Now, if the ants and bees had

moral laws and punishments for the offenders and a sense of right and wrong, it is evident that these would all be directed toward this one end or highest good, the life of the species.

The behavior of the individual ants and bees is what from a human point of view we should call *good behavior*, because it is directed quite unerringly toward the well-being of the group; and the reason why there is so little bad behavior is that animal behavior has been mechanized through the ages either by the action of natural selection or in other ways. This mechanized behavior we call *instinct*, and its action is so perfect that the well-being of the group is attained without the presence of laws and lawgivers and crimes and punishments, but of course at the sacrifice of the higher values which arise in a society of free individuals.

There is nothing, then, in the analogy of the bees and ants which will help us in the Theory of Morals except the very important fact that among these simple animals the *welfare* or *well-being* of the group or species is the end or goal of their activities, and that good behavior (instinct) is the condition of that well-being. If we could apply this to human society and believe that social well-being is the highest good, and that "good" or "right" conduct is that which conditions this well-being, and that all those *moral laws* which have been preached to us from our infancy are simply those rules of action which racial experience has found necessary for social welfare, why, then, the whole subject of ethics would be greatly simplified.

Life as highest good

Perhaps, then, life is the highest good, the *summum bonum*, which philosophers have long sought. At any rate, life is *good;* whether it is the highest good we may ask later on. All nature seems to strive toward life. The conative impulse, the will-to-life, the *élan vital*, the struggle for existence, which have confronted us so often, whether we were studying the origin and nature of life, the philosophy of evolution, or the philosophy of mind, seem now to offer us a foundation for the philosophy of conduct. Ethics would then be that practical science which

considers the ways and means of *successful living*, just as agriculture considers the means of successful farming. Moral laws, in that case, would be the rules for successful living; and presumably the moral laws actually in vogue would be the rules which the experience of social groups has found necessary for successful living.

This conclusion would be, of course, altogether too simple to provide a theory of morals for human beings, but it might be useful as an introduction to get the matter clearly before us. The welfare of bees and ants is quite easily defined, but human welfare presents much more difficulty; you and I might not agree as to what successful living is.

Conduct among primitive men

Before we attack this problem it may help us to consider the situation in primitive human groups. Ants and bees do not have moral laws, nor duties, nor consciences, nor any moral sense. Neither do any animals, although among some gregarious types of mammals individual offenders against the common interest are killed or driven from the herd. Only man is a moral being, consciously reflecting upon right and wrong behavior, approving or disapproving, voluntarily choosing, and suffering regret for wrongdoing. In man behavior becomes rational, and with rational behavior or conduct arise morality, conscience, ethical judgment.

All these exist in primitive human society, mingled with many social instincts brought over from the subhuman inheritance. But in human society the actions of the individual are not wholly determined by instinct, although the social instincts are still present, as when the mother instinctively defends her child, or the war frenzy flashes through a community. Human actions become voluntary actions, determined by custom and authority. Morality now passes through the stage of social habits or *customs* made binding upon the individual by public approval or disapproval, by the favor or anger of tribal gods, and by the operation of physical force in the form of punishments administered by the tribal authorities. Something called public opinion arises,

carrying approval or disapproval of certain actions. Pressure is brought upon individuals in the way of constraint or restraint to do or not to do certain things which are considered to be conducive or detrimental to the common good. Hence *conscience* arises, a kind of inner echo of the approval or disapproval of certain kinds of conduct by the group. Judgment is passed upon one's own conduct or that of others, as it is supposed to bear upon the common good. Hence arises *moral judgment.*

When all these things happen in a primitive community, then *morality* has come. Not all kinds of action are *moral* actions, but only the voluntary conduct of rational beings considered in respect to its *worth* in leading to a certain *end.*

When men live in communities many egoistic impulses have to be suppressed for the sake of the common good. The sentinel in time of war stationed at his post to guard the camp must for the common good sacrifice his desire to sleep. Thus *duty* arises, an action contrary to inclination, but demanded for the good of the community. The *sense of obligation* is now experienced by the individual, aroused by the force of approval or disapproval of public opinion, together with the dread of punishment either human or divine or the hope of reward. Under the sanction of law and authority the man says "I must"; but the "I must" becomes the "I ought" when the instinctive sympathy and love which belong to man's original nature are added to the external sanctions and the consciousness of public approval or disapproval. The sense of obligation may be defined as a certain compulsion in the form of public approval, in which I myself share, to act against my immediate selfish interests, when I feel myself free so to act or not. Finally *character* appears, by which we mean the general reliability of an individual to act in conformity to duty, or to do the things which are considered right, and avoid those which are considered wrong.

It was in this way that man came to be a free moral agent. It represented a mighty step upward in evolution when moral conduct took the place of social instincts. A new set of values came to Mother Earth when rational beings began to reflect upon the worth of actions and freely to choose the higher values.

Then were born free personalities, having both rights and duties, perceiving differences in values and making free choices. Then for the first time character was possible, that greatest of all great words. Kant said that there is nothing in the Universe grander than the good-will — or, as we should say, character.

The evolution of morals

But the reader may ask, "How did it all come about? How did the social instincts of gregarious animals change into the moral judgments of intelligent men?" When that brilliant speculation known as *Darwinism* burst upon the world, it was thought at first that its principles could be applied to ethics and would solve the old puzzle about the origin of man's moral nature. It was only necessary to suppose that moral action had survival value, and then, if by chance such action appeared as the result of variation, any persons or groups so furnished would have an advantage in the struggle for existence and so perpetuate moral traits. Probably few writers on ethics now would attempt to explain the coming of morality by the natural selection of small variations, for the development, though indeed slow, has been too rapid for that; but if man's moral nature *could* be conceived to have arisen in that way, our interest would be centered at once upon the *cause* of the variations in the direction of morality — and, behold, the problem would confront us as before.

There has undoubtedly been an evolution of man's moral nature, but his moral nature has not been evolved out of the social instincts of the lower animals, because there is vastly more in moral character than in social instincts. It has been rather a growth in which new qualities and higher values have been slowly realized: it seems more like an "epigenesis" than like an evolution — a new birth, something achieved, a higher round of the ladder gained.

Perhaps the only way that we can hope to understand the evolution of the moral from the non-moral is to believe that there is some force at work, some driving force, or craving, or cosmic interest, which is struggling to realize these higher values. A

recent writer on ethical theory [1] speaks of the will in its efforts after self-expression as manifesting itself in two separate ideals: first, that of altruism, either toward persons or toward science and art; and, second, self-expression. If we can believe, as has been suggested in a former chapter, that evolution itself is a process due to the working of two ultimate tendencies, one toward self-preservation, and the other toward self-sacrifice, the origin of man's moral nature will be less dark.

But the actual method through which the creative will proceeds to self-expression — if we wish to use these terms in explaining evolution itself — seems to be through rational thought or creative intelligence. When man begins to *think*, he can always think of a better way. The origin of morality was probably not different in method from the progress of morality at the present day. Customs and moral laws are being constantly refined. When we got rid of human slavery, we saw that there were other forms of slavery which were also wrong, such as that exhibited in child labor in factories or the tyranny of capital over labor. Taking property belonging to another and taking human life are morally wrong; yet they were not thought to be wrong by primitive people, provided the one who suffered belonged to another tribe. But there came a time when theft and murder were wrong under any circumstances. Somebody's conscience told him that there was a higher law. Antigone in Sophocles' drama refused to obey the order of the King, because her conscience told her that there was a higher law. Jesus, Savonarola, Luther, and all our prophets and reformers have stood out against custom and tradition and proclaimed a better way. It is for this reason that the intuitional school of moralists has taught that conscience is a sort of God-given faculty, having immediate insight into right and wrong. Empiricists, on the other hand, have said that there is no such faculty, our higher knowledge coming from experience. But the situation is probably not well described by either of these schools. What we seem to have is a constantly enlarging insight into better methods, a more

[1] J. H. Muirhead, article "Ethics" in Hastings's *Encyclopedia of Religion and Ethics*.

penetrating vision, a better judgment of values. In man we may call it rational thought; in the beginning we may perhaps call it the "power which makes for righteousness."

Partial summary

We seem, then, to have made thus far some progress in understanding the origin and meaning of certain of our ethical concepts. Right actions are those which conduce to social welfare. The social instincts guide the lower animals to this end. In man social instincts are replaced by free voluntary action, guided, but no longer infallibly guided, by social customs and moral laws, enforced by legal, social, or divine sanctions. In such a situation, reflective moral judgment, conscience, and duty necessarily arise. Gradually the social customs and moral laws are themselves refined by experience, and by the operation of reflective thinking and the insight of gifted leaders. And this whole movement from instinct to morality arises, we believe, as a part of the whole process of growth which we call *creative* or *emergent evolution.*

While we may be able to understand in this way what moral laws are, and how they have grown up, and what duty and conscience mean, and how they have arisen, there is one concept which we have repeatedly used in the discussion, but have not carefully defined — this is the concept of social welfare. Right actions are those which conduce to social welfare, but what is social welfare? So long as we are discussing swarms of bees or ants, flocks of birds or herds of animals, there is no great difficulty in defining welfare. It is the physical survival of the group or species.

But when we turn to human society, this definition of welfare is no longer adequate. Human beings have higher aims than mere physical survival, or *life.* It is just here that the disagreement has arisen among the several schools of writers on the theory of ethics. It is the old problem of the Highest Good.

The Highest Good

What, then, are those higher values which are the goal of

human effort? If, as was intimated above, moral laws are the rules for successful living, what kind of living is successful living? If you or I had to draw up a constitution for a new social order or write a philosophy of education, what would we decide to be the *end* toward which our efforts should be directed? It is not sufficient to mention a number of virtues, such as temperance, courage, wisdom, justice, love, coöperation; or ideals, such as freedom, equality, opportunity; we must find, if possible, some general principle, which shall serve as a criterion of social welfare. Several such principles, as we have seen, have been put forward in the history of ethical theory, namely, pleasure, happiness, self-realization, the activity of our highest powers, or merely obedience to duty. These may be embraced under three general theories relating to the *Ethical End* or *Highest Good.* First, the hedonistic theories regard pleasure or happiness as the end. Second, the perfection theories regard self-realization or activity as the end. Third, the intuition theories regard unconditional obedience to duty as the end. These have all had a very important historical development, each represented by eminent scholars, ancient and modern.

Hedonism

Hedonism is from a Greek word meaning *pleasure.* In its simplest form it is the doctrine that pleasure is the highest good. In its more carefully developed form it teaches that this is happiness, especially the happiness of the greatest number. As such it is called *Utilitarianism.* A Greek philosopher named Aristippus, a disciple of Socrates, first proposed the view that pleasure is the highest good, and he had reference to the pleasure of the individual, not being interested in social welfare. As for pleasures, he held mere physical or bodily pleasures in the highest regard.

Epicurus, founder of the Epicurean school of philosophy, refined the theory and, while still making pleasure the highest good, emphasized mental rather than physical pleasures, and thought that in the end the greatest pleasure could be gained by freedom from fear and anxiety and by studious avoidance of any cause of

pain or worry. Epicurus himself lived a very simple and abstemious life and enjoined simplicity and virtue upon his disciples.

In modern times a much more serious attempt to construct an ethical philosophy on the basis of happiness was made by the eminent English thinkers, Hobbes, Bentham, and Mill. The theory of Jeremy Bentham (1748–1832) may be mentioned as the best expression of modern Utilitarianism. With Bentham, pleasure is still the highest good, not the pleasure of the moment, but of a lifetime; and not the pleasure of the individual, but of the greatest number. The latter qualification was an all-important one, marking the arrival of the social element in ethical theory. Bentham was interested in finding some universal principle which should serve as the basis of all legislation, and he found it in the principle of "*the greatest happiness for the greatest number*" — called the principle of utility. It is this which is the measure of right and wrong.

A still further refinement of Hedonism was made by John Stuart Mill (1806–73). In his little book, entitled *Utilitarianism*, will be found a clear and concise statement of his view. He accepts the principle of the greatest happiness for the greatest number, but he makes a very important modification of Bentham's doctrine in that he recognizes a difference in *quality* among pleasures, some pleasures being better than others. That there is such a difference seems to be true, but it represents the abandonment of the strict hedonistic ethics. Bentham had consistently denied any such qualitative difference, pleasures being measured quantitatively. Quantity being equal, the pleasures of art, poetry, or philanthropy are no better than the pleasures of the senses. This Mill denied. "It is better," he said, "to be a human being dissatisfied than a pig satisfied; better to be Socrates dissatisfied than a fool satisfied." [1] Undoubtedly, but why? If we could think this through, we should find the ethical problem solved. Mill himself did not give a satisfactory answer to this question. He seemed to think that it is to be determined by the judgment of those best qualified to judge — by those who have had experience with both kinds of pleasure. However this diffi-

[1] *Utilitarianism*, p. 14.

culty may be met, the fact of the qualitative difference in pleasures seems to weaken the logical position of Hedonism. It introduces some other standard for right conduct than pleasure itself.

Hedonism has been weakened also by a better knowledge of the psychological motives of human actions. The desire for happiness is not the primary motive of action. We are creatures of impulse. By instinct, habit, or custom we crave not happiness nor pleasure, but specific things. We want a piece of land, a new car, a dance-date, a fur coat (or at least a fur collar), a position, a husband, or a wife. People want to exercise power, to rule, to succeed in business or in a profession, to make a lot of money, to gain praise or acclaim, to win in the election, to be noticed on the street, to be asked to join a fraternity or sorority, to write a book, to be an actor or movie star, to carry through some reform, to minister to the sick, to champion a great cause.

Furthermore, in our judgment of values we do not appraise happiness — certainly not pleasure — as the highest good. There are other things which we rank higher — genius, ability, devotion to ideals, heroism, self-sacrifice, public service, originality. Our biographies are not those of happy people. Jesus was a man of sorrows. Socrates was executed as a criminal. Lincoln fell a victim of a great cause. To be sure, we may say that we honor these men because they suffered for the happiness of others. But did they? Were they not martyrs to their efforts for specific things, to things we count good in themselves, righteousness, wisdom, freedom? We assume that happiness usually accompanies the good life, but it does not seem itself to be the highest good. Pleasure accompanies the fulfillment of function, but it is not the motive of action.

Energism

The second theory of the highest good we have called the *Perfection Theory*, or the *Self-realization Theory*. The term *Energism* has been applied to it and is perhaps the better name. This view has the prestige given it by the support of Plato and Aristotle, and is held by many recent writers. Plato said that the highest good is a harmoniously developed personality, a con-

dition in which every faculty functions in a perfect way without infringing upon any other faculty. The good man is one in whom appetite, reason, and courage work in harmony, no one of them being in excess.

Aristotle's book, called the *Nicomachean Ethics*, is one of the great books of the world on ethical theory. Well-being, he said, is a functional conception. A good horse or a good sword is one that perfectly performs the functions of a horse or sword. The highest good is found in the normal activity of our highest powers. To Aristotle, as to all the Greeks, man's highest activity is intellectual. He is a thinker, and the exercise of thought is what Aristotle ranks so high. God to him is essentially a thinker, the thought of thought — pure thought. Hence rational activity is Aristotle's notion of the highest good, expressed in scientific research, in philosophical thought, in the quest of truth.

In modern times Energism usually takes the form of self-realization, in which, however, the principle of activity is still the essential one. With our Northern and Western ideas we do not look upon reason as the only noble function of man, although we rank intellectual activity very high. We prize creative work of any kind, invention, exploration, initiative, adventure. We prize also, as indeed the Greeks did, artistic creation and the exercise of the faculty of appreciation, and religious activity, and wonder and worship. We think of congenial work and play, of recreation and sport and of social relations of all kinds. The end in view is to be a *person*, and to exercise all the powers and enjoy all the privileges of a person, to develop all that is inherent in personality. In accordance with the principle of self-realization Everett in his important book entitled *Moral Values* makes a table of values based on the idea of functional activity. He arranges them in eight groups as follows:

I. Economic Values
II. Bodily Values
III. Values of Recreation
IV. Values of Association
V. Character Values
VI. Æsthetic Values
VII. Intellectual Values
VIII. Religious Values [1]

[1] Walter Goodnow Everett, *Moral Values*, p. 182.

Disregarding for the moment Everett's fifth class, called *character values*, his table is instructive, showing how bodily health and strength, sports and recreations, friends, the production and appreciation of works of art, rational thought, wonder and worship, are all good in themselves, because they represent the exercise of our powers.

Character values

But now what about those character values which Everett has placed fifth in his list? What are they and why has he put them in this place? Evidently we have here to consider the relation of the individual to society. If self-realization is to be the highest good, is it to be the individual self which is to be realized or the social self — or is there, indeed, any social self? "Loyalty to the great community" has sometimes been taken to be the supreme value, as if the community itself were the end to be realized. Possibly a little reflection here may help to clear this up.

Suppose we assume, for the sake of the argument, that the perfection of the individuals composing a community is the highest good. Since man is a social being and lives in communities, it is evident that he must contrive to get along with his fellow men before he can begin to realize any of his individual aims. Since his selfish interests come in conflict with the selfish interests of others, a set of social duties will arise, obedience to which conditions the very existence of society. Honesty, veracity, justice, regard for the lives and property of other men, regard for the wives and daughters of other men, are some of the duties which make life in a healthy social group possible. The fate of the individual is bound up with the fate of society. These social duties will be in the focus of attention, but this does not mean that they are themselves the highest values, but that they are indispensable to the realization of any values whatever. Hence, when one speaks of loyalty to the Great Society as the supreme good, this is because it is something which is absolutely fundamental. So vital are our duties to society that the word *character* has reference almost wholly to our social

duties. Character values may therefore well stand at the head of any list of values — conditioning all the others. The order in Everett's table may thus be open to criticism.

This does not mean that social duties are instrumental values, or that prudential motives alone enjoin virtue, for men are bound together by sympathy, making of society an organic unity, each one sharing in the good or ill of all. Society is, indeed, the larger self, but it is of the individual self that we are speaking when we use the expression *self-realization* as the ethical end.

Various attempts have been made to formulate the highest good in accordance with the principle of self-realization, bringing the individual and society into their proper relations. The two formulas following may serve as examples:

The end of all moral action is "a social order in which each member of the group may have a fair field for his activities and the fullest opportunity for self-realization without infringing upon the similar right of every other member of the group in the present or in future generations." The ultimate good is "A social order in which the highest potentialities of each individual are developed to the maximum, and in which these potentialities are expended in the interests of that order to guarantee its stability and permanence."

In each of these statements the organic unity of society, the supremacy of the character values over all others, and the principle of self-realization of the individuals in society are fully recognized.

It is probable that in the years to come we shall have to put more and more emphasis upon the character values; and the reason for this is that, as the world gets filled with people, as geographical expansion is no longer possible, as nations crowd one another in every continent, it becomes more and more difficult to live together in peace and harmony. Nations jostle one another and parties within a nation clash. In times of war or civil strife or political turmoil there is little opportunity for the development of those other values which self-realization involves — intellectual, æsthetic, or recreational. The only way that people or nations can live together in harmony is by the practice

of the character values, coöperation, justice, respect for law, self-restraint and self-control.

Many circumstances in our modern life, economic, social, and political, have combined to relax the feeling of responsibility and the need of self-restraint on the part of the individual. Tyler, in rather vigorous if not extreme language, puts it as follows:

> Occidental man, most of all here in America, is a spoiled child.
>
> In our use of the gifts of a bountiful nature, we resemble a parcel of spoiled and ill-mannered children who have broken into their mother's well-stocked preserve closet where she has put aside a rich supply of good things against a day of thanksgiving and a winter of need. They have stuffed themselves, destroyed what they could not devour, wasted nearly all, quarreled with one another, and have left ruin behind them. They are bitter in their outcries against any and every neighbor who refuses to allow them similarly to misuse his property.
>
> They will emerge dirty, nauseated, ill-tempered, an unpleasant sight and a neighborhood nuisance. They all unite in blaming their mother for not having secured the door and brought them up better. They need a sound spanking, a cold bath, a large dose of physic, and school early to-morrow morning.[1]

The new character values

It seems, indeed, that a new set of moral values is coming into the foreground as a result of the modern social situation. The values which have been preached to us in the past from every pulpit and platform are Liberty, Equality, Opportunity, Efficiency, Democracy, Organization, Science, Invention, and Discovery. We still believe in them heartily and fully, but the time has come when our attention must be focussed upon other values which condition the existence and welfare of society itself, such as *Discipline*, *Self-restraint*, *Self-control*, *Respect for Law*, *Obedience to Law*, *Limitation of Desires*, *Temperance*, *Coöperation*, *Education*. The practice of these virtues has become urgent and imperative. We can understand why Loyalty to the Great Community and even Loyalty to Loyalty have been advocated by distinguished philosophers as supreme values. This, perhaps, will help us also to understand the third theory of the highest good, which we shall consider later.

[1] John M. Tyler, *The Coming of Man* (Marshall Jones Company), p. 89.

Character values as duties and moral laws

So supremely important are the character values that they come to us in the form of *duties* — not merely values — duties which we owe to society or to God. And not only are they duties, but they are laws — moral laws. Society itself, in its organized capacity as the State, enjoins them and enforces them with rigid sanctions; and God is represented as handing them down engraven plainly on tables of stone and as inflicting severe punishments for their infraction. Thou shalt *not* steal nor even covet thy neighbor's property, nor do any murder, nor commit adultery, nor bear false witness. They are the minimum conditions on which any society of men can exist and prosper. They represent the boiled-down and concentrated experience of the ages as to the conditions of living in communities.

But men are free agents, and the powerful motives of self-interest seem to conflict with the good of society — hence the moral laws will not always be obeyed. When they are not obeyed, what will happen? Few people, I fear, ever think this through. Perhaps some have reasoned no further than the policeman's club and the possibility of escaping it. If I sin, the law will get me. But perhaps it will not get me. If so, all is well.

Next comes the sanction of public opinion, the disapproval of our fellow men, more powerful, no doubt, as a deterrent from evil than the laws of the State. But what will happen if an individual acts contrary to public opinion, or — and here is the graver question — what will happen if public opinion grows lax and the community no longer frowns upon the evil doer? "Everybody's doing it" removes the odium which was formerly attached to the evil deed. To meet these various cases and to provide what seems to be the absolutely necessary sanction for moral law, there has long been held a belief in a system of rewards and punishments in a future life. Often enough in this life we see the wicked prosper and the good man suffer. The eternal law of justice seems to demand that there be some compensation somewhere. It must be in a life after death. This was the well-known argument for the existence of God and for the immortality of the soul put forward by the philosopher Kant.

But the punishment for sin in a future life can act as a deterrent from evil only in case it is accepted as an article of faith, and even then it seems not always to be effective. So we must still press our question — What will happen in a community when offenders escape the law, when public opinion becomes lax, and when the belief in a future life has grown dim? The answer to this question is apparent. What would happen among gregarious animals if instinct failed? The group or the whole species would become extinct. What has happened among primitive men when social morale has failed? The group has been annihilated, or absorbed by some neighboring group in which morale has not failed. What will happen in our modern complex social groups if the laws of conduct which experience has found necessary for social welfare fail to be observed? Social dissolution must be the outcome. As long as the heart of society is sound, individual offenders may be cared for. When the whole social body begins to be corrupt, social organization will gradually fail.

The social outlook

This bears directly upon the possible future of our own civilization. History reveals no situation similar to that of our immense modern congested states. When in former times social morale failed, there were strong and virile people to the north to bring new blood and stern discipline. If social morale should fail now, if a disregard of the rules of healthy living should become general, would the dark ages which would follow have the seeds of a new and better era? I fear that the regeneration, although it would surely come, would be very slow. Perhaps there would intervene long centuries of social decadence with its accompanying poverty and hunger, dirt and disease, and infinite pain and suffering.

But social morale may not fail. There are regenerative forces within society now not known in former times. Social morale since the Great War seems, indeed, low. The world is full of wasters and grafters, and despoilers of women, and breakers of the law, and destroyers of the home, and traitors to peace and justice. But a new social conscience is arising, and there are

visions of new values in the relations between individuals and between classes and between states. That a crisis has arisen in the moral progress of the world no one can doubt, but that disaster is imminent is by no means sure. Above the rivalry of nations and the clash of classes, and above the hatred and suspicion and fear which grew out of the war, there is the power of reflective thought which is slowly but surely discerning a better way to live. There are thousands upon thousands of honest men and women who have the clearer vision, and there have been a few great leaders who could see that the path of progress lies through righteousness and justice and coöperation. Possibly we cannot count in these democratic days upon great leaders to save the world. Possibly we must depend upon universal education, which shall show that in our crowded social groups self-realization for the individual can come only from that self-sacrifice and discipline which make coöperation possible.

However this may be, since natural selection has largely ceased to operate in human society, nothing will save us from social disaster except obedience to the older laws of honesty, veracity, chastity, and justice, and the newer law of love and coöperation enjoined by the conditions of our modern society.

When all is said, there is nothing as yet to be changed in our old Aryan ideal of justice, conscientiousness, courage, kindness, and honor. We have only to draw nearer to it, to clasp it more closely, to realize it more effectively; and, before going beyond it, we have still a long and noble road to travel beneath the stars.[1]

Social solidarity

But there still remains a part of this perplexing problem to consider. Suppose we have a social order in which social morale is high, and in which clean living, social justice and social welfare prevail. Suppose that any individual in the social group should raise these questions: "Why am I under any obligation to obey the moral laws or the laws of the State? My own personal interests conflict with the interests of the community.

[1] Maeterlinck, quoted by Drake, *The Problems of Conduct.* (Houghton Mifflin Company.)

Why should I concern myself with the latter?" The answer to these questions appears again when we carry the matter back to small primitive groups or to groups of gregarious animals, where it is clearly seen that the welfare of the individual coincides with the welfare of the group. It can be seen even more clearly in the case of the family, where the solidarity of the group is evident. The mother would never ask why she should concern herself with the welfare of the son. They are a unit, and the unity of the family is an organic not a prudential unity. Society likewise is an organism in which the good of the whole is one with the good of the part. But in our immense modern complex social groups this organic unity is not so clearly seen by the individual, and so enemies of society appear on every side. Hence we see the absolute necessity of a system of education in which the relation of the individual to society shall be made perfectly clear.

As a matter of fact this social consciousness is extending its limits yearly, connecting us in the bonds of human sympathy not merely with our own community and nation, but with the whole world. The League of Nations is one of the countless movements in our own time designed to widen and solidify our human interests. And, still better, we are gradually becoming conscious of the unity of the present generation with generations to follow. We are beginning to understand that we cannot wantonly exhaust our forests, our coal mines, our oil wells, and our soils; but that our duty to our children and to their children extends to the conservation of all our material resources, and, what is still more important, that our obligation extends to the conservation of our racial values, the physical and mental health of the race. The generations that are to come have the right to a sound physical and mental heritage. We can rob them of it in a hundred ways, by doping our brains with narcotics, by impurity and the excesses of sex, by sapping our physical energies through a life of luxury and ease, by living in airtight and overheated houses, by substituting a night life for that of the daylight day to which mankind has been accustomed for perhaps nearly a half-million years, and in many other ways. We boast of our obedience to the command, "Thou shalt not steal"; but we do

not realize what a lot of ways there are of stealing. We can steal the fuel and the food of coming generations, or we can steal their physical stamina. Our neighbor has a right to a square deal, neighboring nations have a right to a square deal, coming generations have a right to a square deal.

If we have followed this long argument through, we can understand how, if self-realization is the supreme good, the character values become the condition for the realization of all other values. Every man now and in succeeding generations demands a fair field for exercising his powers and developing his personality. This can only happen in a social order where justice prevails and where it extends beyond the narrow limits of one's own community to the whole of mankind. So fundamental are our *duties* to others, so ingrained by social if not biological inheritance, that they seem often like the very voice of God in the form of human conscience. This will enable us to understand the third theory of the highest good, which we may now consider.

Intuitionism

At first the theory of *Intuitionism*, or *Absolutism*, or *Aprioriism*, as it is sometimes called, is a little hard to understand. We can see how happiness might be regarded as the highest good, or social welfare, or self-realization; but what can it mean to say that *duty* is the highest good? Duty, we supposed, was simply the obligation placed upon us for pursuing some moral value, and the moral value itself must first be determined. But Intuitionists do not speak primarily of value; they speak of right and wrong, and of conscience and duty. The human mind knows intuitively what is right and what is wrong, and duty must be done for duty's sake. There is in man a special "sense" or faculty or capacity, by which moral distinctions are immediately known. In all cases of doubt, follow your conscience; it is a God-given possession of every man. There is an inner appreciation of the moral quality of actions, a kind of moral taste, which needs no explanation and does not come from experience.

The philosopher Kant has given his authority to this ethical system. Kant's whole moral system was an emphasis upon

duty. The practical reason expresses itself in the form of a *Categorical Imperative*, which we should call the *voice of duty*. By a categorical imperative Kant means a downright unconditional command. The will is self-legislative, issuing its orders categorically. Unconditional obedience to the moral law is demanded. It does not say *if* you would be happy, or *if* you would be perfect, or *if* social welfare is your end, you should do certain things. It says simply, *Do right!* Respect for the dignity of the moral law is the sole motive of moral action. The moral law is absolutely sacred.

> Kant loves to dwell on its awful sublimity. . . . Absolute truthfulness, absolute respect for the rights and freedom of every one of your fellow men, with devotion to the cause of high-mindedness, of honesty, of justice, of simplicity, of honor — such is Kant's ideal, and so far as in him lay, he was always true to it.[1]

There is nothing then unconditionally good except a good will.

But it does not seem enough to say, *Do your duty*. What is my duty? Kant supplies a formula which is capable of application to every situation: *So act that the maxim of thy will may always hold good as a principle of universal legislation.* Suppose that a sum of money were left in trust with me for a child. Suppose that, under the stress of some great financial difficulty, I think of using this money temporarily for myself, to be paid back, of course, in a few weeks. Is this right? Simply apply the rule. Would I wish this to become a general rule of action?

To this excellent rule Kant adds another equally wholesome: *So act as to treat humanity, whether in thine own person or in that of another, always as an end, never as a means.* No child, no woman, no laboring man, can ever be treated as a means to one's own pleasure or profit. The human personality is sacred.

Such is Kant's remarkable and lofty system of intuitional ethics. It is perhaps the view commonly accepted by mankind. Do your duty, and do it because it is your duty. Some years ago a great ocean liner, the Titanic, sailing west on her maiden voyage with a large passenger list including well-known and distinguished men, struck an iceberg and sank. There were not

[1] Royce, *Spirit of Modern Philosophy* (Houghton Mifflin Company), p. 133.

lifeboats to accommodate all, and the men, helping the women and children into the boats, calmly remained on the decks and went down. What was their motive for doing this? No one even suggested any other motive than duty. It was not for newspaper praise, nor reward in heaven, nor any other gain. It was simply *the proper thing to do.*

No one questions either the grandeur or the practical working of Kant's ethical system, which exalts a stern uncompromising obedience to duty; but it may be possible to explain the almost instant and apparently intuitive character of our moral sense in other ways than by the postulate of the "autonomy of the will." The Empiricists would explain it as the result of individual or racial experience in living under a system of moral discipline. And as regards the *formula* above mentioned, so clearly practical in its application, it has been questioned whether, when I ask if I should wish the principle of my action to become a universal principle, some standard such as happiness or social welfare or the general good is not tacitly implied.

If one cannot quite accept Kant's rigorous Intuitionism, nevertheless there is an element of truth in this theory which other theories cannot ignore. When Mill recognizes a difference in the *worth* of pleasures, saying that those who have had experience with both the higher and the lower kinds prefer the "higher"; when Everett makes a list of values ranking some as higher and others as lower; or when the Perfectionist speaks of the activity of our "highest" powers, the Intuitionist might inquire, "How do we come to this judgment of value?" It would seem that it must be a matter of taste or insight or intuition or perception; and if you hope to escape from the Intuitionist's position by saying that it is nothing but the power of rational thought working upon the materials of experience, remember that in rational thought itself there is an element of intuition or illumination and that on this often depend invention, discovery, scientific hypothesis, artistic creation, and moral progress.

The convergence of theories

It would appear that the three systems of ethics which we have

called *Hedonism*, *Energism*, and *Intuitionism* are not three contradictory systems, one of which is true and the others false. Both Hedonism and Energism give us concrete and definite pictures of the highest good, the former finding it in happiness, the latter in the normal functioning of our faculties and powers, while Intuitionism provides a good, practical, working rule for realizing them. If Intuitionism errs in failing to recognize the importance of experience in the growth of our moral ideas, the empirical theories err in completely ignoring the element of intuition involved in all reflective thought — but especially as it appears in gifted leaders.

And the dispute between the Hedonists and Energists need not be taken too seriously. It seems, however, more in accord with our present habits of thought to place the emphasis upon function and activity than upon the pleasure which accompanies them. We get a very good working plan for practical ethics and for social effort if we say that the highest good is a social order in which every person shall have a fair field for his activities and the fullest opportunity for self-realization without infringing upon the right of every other person, not excluding those of generations to come, to the same privileges.

But whether we accept the doctrine of happiness or self-realization, we must not forget that first of all men have to live together, and that the world is getting pretty crowded; so that it comes about that the emphasis must for the present be put upon *character values*, honesty, fidelity, veracity, justice, self-control, limitation of desires. In recent years too much stress has been placed upon self-expression in our educational system and particularly in our avenues of popular education, such as fiction, poetry, drama, moving pictures, and newspapers; not because self-expression is not good, but because it is not primary. The primary virtues are the social virtues. When individuals, curbing their selfish interests, learn to live together, when nations, curbing their selfish nationalism, learn to live together, then the other values, intellectual, æsthetic, recreational, may be realized. The lesson of coöperation is clearly our first lesson.

Thus we begin to understand why philosophers during all the

ages have spoken of righteousness and justice as eternal values, coördinate with beauty and truth. Only the beautiful can rank with the good as an ultimate value which the world is trying to realize through human consciousness and social organization.

Ethics and religion

But even if moral conduct is a kind of absolute value which Nature is trying to realize, still the actual working of the moral law seems, to one reflecting upon it as we have done in this chapter, to have a certain aspect of harshness. If you would be happy, you must be righteous. If you are unrighteous, you will suffer — or, if not you, then your children, your neighbor, or your social group. I am afraid it is true that the moral law is, indeed, sometimes harsh. The laws of Nature and of God are unbending. The unfit have been swept from the stage to make room for the fit. That the unfit should perish to make room for the fit is in the end beneficent. Possibly God could have thought of some better way to create free, intelligent, and moral beings than through the slow process of evolution, than through error and its punishment — but no man has proposed this better way.

There is one means that has been found to soften somewhat the harshness of the moral law — and that means is religion. During all the ages religion has lightened the burden in some degree, not by annulling the consequences of unrighteousness, but by supplying motives to righteousness. The hard road of duty may be softened by love and loyalty. I fear that the law of consequences cannot be escaped; but what through stern duty may be onerous and difficult may, through willing loyalty, become a service of joy. Men do not like to be threatened and driven; but by love and friendship they may be readily led. Sometimes when they will not do right to escape evil consequences, they will eagerly do so out of loyalty, either to a great leader or to a great cause.

Impulsive motives are stronger than prudential motives. Tell men that the unrighteous shall perish and they will do unrighteousness still — even though they know that the consequences of wrongdoing are fatally sure, falling upon them, or

their kin, or their social group; but once call out their spirit of *devotion* — to God, to Master, or to friend — to husband, wife, or lover — to church or party, even to club or fraternity — and they will undergo hardship and practice self-denial.

Religion teaches that the Universe is friendly — that God is love, and that deeper down than the law of competition there is the law of coöperation; that altruism is as primordial as egoism. It teaches that in our struggle for right the Universe in its spiritual depths is on our side — so that the struggle is not in vain. When these spiritual powers are incarnated or personified in a visible leader, devotion reaches its perfection, and great things may be done. When no such leader appears, then education is indispensable — *for the people must have either light or leader.*

In connection with this chapter read:

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CHAPTER XXIII

THE HIGHER VALUES OF LIFE

Æsthetic Values

Objects of beauty

On the walls of certain caverns in Southern France there are pictures of animals painted by the men of the Old Stone Age. They display a considerable degree of artistic skill and were painted so that they have endured for probably more than twenty-five thousand years. Evidently a great deal of effort was expended upon them by the artists who made them, effort which was economically unproductive, providing no food or clothing, and ministering to no material needs. When asked to explain these pictures, we say that they possess a certain quality which we call *beauty*, and that they give to the beholder a certain kind of *pleasure*, which we call *æsthetic* pleasure. They belong to the sphere of *art*, and are thus quite outside the familiar field of economic enterprise, or love, or war, or moral and political institutions. They introduce us to a new field of philosophical inquiry, in which new problems appear.

If the reader is a college or university student and will let his thought rest for a moment on the buildings on his campus, he will at once recognize the fact that they differ in architectural merit, some, perhaps, being masterpieces of art and others having little or no merit of this kind. Furthermore, he will see that architectural merit is not judged on the ground of the practical utility of the building or its convenience for the purposes for which it was made, nor even its probable permanence and stability. It has or has not something else which we call *beauty*.

He will find also that he is constantly making the same judgment in respect to the music which he hears at oratorios, concerts, recitals, church services, dances, musical comedies. Some of it has the quality of artistic merit and some has not. He

knows that the same is true of poetry and of paintings and sculptures and of landscapes and of human faces and of dress.

What is this elusive thing we call *beauty?* Almost all we know about it is that it gives us a peculiar and lasting pleasure, which we understand is called *æsthetic pleasure.* We do not know what beauty is, nor how æsthetic pleasure differs from other kinds; but we do know that there is a supreme joy which we have felt in the contemplation of a beautiful building, painting, statue, landscape, a woman's face, tasteful dress, or in listening to music or the poetry of Shelley or Keats, or in watching or participating in the graceful movements of the dance.

The science of æsthetics

Æsthetics is a normative science, like ethics and logic, because it deals not with mere facts of experience, but with values. Æsthetics investigates the meaning of æsthetic pleasure, the objective or subjective character of beauty, and the nature of beauty itself, and the origin and nature of the art impulse. All these questions have been discussed since the time of Socrates and many different answers have been given to them.

That æsthetic pleasures play a very important part in our lives, and that among normative sciences æsthetics may be comparable with ethics and far more interesting than logic is evident if we reflect how much oftener we hear the expression, *Isn't that pretty* or *beautiful!* than the expression, *Isn't that true,* or *good!* Personal beauty and personal adornment seem also to take more of our thought and attention than our moral endeavor, or the logical consistency of our discourse. It is no wonder that thinkers from the time of Socrates have wondered about beauty and what it is in objects that makes them beautiful.

It is evident that in æsthetic enjoyment we have a *value* which adds immeasurably to the richness of life. Music, poetry, drama, literature, painting, and sculpture are a refuge for the soul wearied with the daily cares of business or politics or professional duties. Our American cities may be ugly in their monotonous architecture, but there are few cities or towns in which, as we

come and go, the eye is not rested by at least one beautiful building; while natural beauty awaits us everywhere, in wild and cultivated flowers, in fresh green lawns, in forest or ornamental trees, in waving fields of grain, in rivers, lakes, mountains, and sea, in the rainbow, in cloud effects, in the setting sun or the heavens at night, in the songs and motions of the birds and in their forms and plumage, in the gorgeous leaves of autumn or the fields covered with snow in winter, and in the human face and form.

Since beauty is so good to enjoy, the philosophical impulse in man must be very strong to cause him to break in upon his æsthetic pleasure to inquire what sort of experience it is, or to pick to pieces an object of beauty to find out in what its beauty consists, or to psychologize on the motives of the artist at work upon some great painting. Nevertheless, the human mind with its restless longing to penetrate to all knowledge has from the earliest times been asking and trying to answer these very questions. A course in the theory of art is indeed highly to be recommended. Quite apart from our interest in the theoretical questions, our own powers of appreciation may be greatly strengthened by such study, and the joy of life immeasurably enhanced by an initiation into a knowledge of the various sources of æsthetic pleasure.

Art periods in history

Lately the metaphysical aspects of the beauty problem have been less emphasized and increasing interest has been shown in the historical, sociological, educational, and psychological sides of the subject. One writer has said that there has been a continual slow decline in all the arts of Europe, except music, since the year 1500, and that music itself has been slowly declining since the death of Beethoven.[1] Perhaps not all those competent to pronounce a judgment in such matters would agree with this critic. But if it be true, the question Why? involuntarily springs to our lips. Is it because of the lack of genius in our modern age, or because there is a lack of interest in art, or an undeveloped

[1] F. S. Marvin. *Progress and History*, chap. IX. Article by A. Clutton Brock.

faculty of appreciation? There is certainly in America to-day a widespread interest in art, particularly in music and poetry and architecture. But if we speak of *relative* interests, comparing our interest in fine arts with our devotion to mechanical and useful arts and to the acquisition of wealth and the accumulation of externalities, and then compare in this way our own age with that of the great art periods of history, as in ancient Greece or mediæval and Renaissance Europe, the comparison is most unfavorable to us.

There would seem to be three conditions necessary to a great art period: First, deep feeling seeking expression. Second, genius to express it in appropriate form. Third, a sympathetic audience able to appreciate and enjoy the productions of genius. Probably we fail in all of these as compared with the periods mentioned. But it is significant that there was a powerful religious motive back of the great architecture of the Middle Ages and to a very large extent of the great painting, music, and poetry of the Renaissance period. Religion and national feeling inspired also the work of the Greek masters. Their beautiful buildings were temples; their sublime drama originated in a religious service and had usually religious history for its theme, and gods and goddesses figured prominently in their sculpture, painting, and poetry. It will be one of the interesting questions which only the future can answer whether a great art period can spring from other than religious feeling, and if so what its powerful motive will be.

In fact, this introduces us to a special problem in æsthetics which holds our interest at the present time more than the old theoretical discussion about the nature of beauty. This is the problem of the *art impulse.* Why do people compose music, write poetry, paint pictures, and model statues? We quickly see that the motives by which we explain other kinds of human activity will not apply here, namely, the hope of gain or fame or personal advancement. Products of art are too often economically unproductive, and when they are not so, few of us would believe that economic or selfish motives are adequate to explain the creative work of the artist. We see that such motives

would not apply to the drama, poetry, or sculpture of the ancient Greeks, nor to the art products of any great art period in history. So, then, let us consider this part of æsthetic theory first, the part, namely, which deals with the *art impulse*. Then in a second division we may consider some of the older and newer theories of *beauty*. Finally in the latter third of the chapter we may bring together some conclusions under the head of *æsthetic experience*.

I. The Art Impulse

The fine arts

When intelligence and skill are expended in productive activity, we speak of this activity as *art*. If this activity is of such a kind as to lead to the production of objects of utility, we call it a *useful art;* if it leads to the production of objects of beauty, we call it a *fine art*. There is no difficulty whatever in explaining the presence, in a social group, of the useful arts, such as blacksmithing or shoemaking or weaving, since they serve the vital needs of the people. But so far as we can see, works of fine art serve no such need. And yet, not only at the present time, but as far back as we can go in the history of man, the creative work of the artist, whether in music, painting, poetry, sculpture, architecture, or decoration, is discovered in every social group. What is its explanation?

If it is a case of demand and supply, it is wholly unlike the operation of demand and supply in the economic world. We could not think of the creative activity of the poet or the musical composer as something done to meet a demand in the ordinary sense. Such activity is free and spontaneous, *the outgoing of some creative impulse*. It seems more like a form of *self-expression*. The artist has something to express, perhaps some deep emotion, for which ordinary language or gesture is inadequate. Language must be *embellished*, as in poetry, calling in the aid of rhythm and rhyme; or musical tones with their cadences and harmonies must be invoked. The artist or the poet or the musical composer is *impelled* by some insistent prompting to create something beautiful. The activity is spontaneous, instinctive — a kind of over-

flowing. The artist himself cannot explain the impulse. It seems to him like an inspiration.

The principle of social resonance

But art is something more than the expression of deep emotion. There is a social element in it, which is really its significant part. Art is fundamentally social. In our quest for an explanation of the art impulse, we must turn both to the psychologist and the sociologist. The potential artist, with his profound emotion or his great thought or his new vision, not only desires to give adequate expression to his mental state, but he demands the sympathetic expression and the sympathetic experience of his fellow beings.

The closest bonds of sympathy unite the members of a group. Each one shares the joys and sorrows of the others and each one wants others to share his own newfound joy — as many others as possible. The child, almost as soon as it can talk, cries, "Oh, mamma, come and see." We run to our friend to have him share in some new beauty that we have found. No friend being present, we may even beg a stranger to share with us some gorgeous sunset or grand Alpine scene.

We may think, therefore, of the artist as impelled to give expression to some overmastering emotion, or, indeed, to some overmastering thought, in such a way as to gain a kind of *social resonance* through the sympathetic participation of his fellow men in his new possession. The art impulse has thus been called "the pursuit of social resonance," [1] and the principle may be applied not only to the musical composer, the poet, the painter, and the sculptor, but to the man of the Old Stone Age, painting his picture of the bison on the walls of his cavern, or to the savage beating his tom-tom.

But it is something more than mere sympathy which the artist asks and receives from his fellows; it is actual and active participation in his feelings, moods, and creative work. The organic unity between the members of society is much more intimate

[1] See the excellent account in Hirn's *Origins of Art*, especially chaps. VI, VII, VIII.

than we used to think when first we spoke of sympathy. The psychology and physiology of sympathy are better understood now. Sympathy extends to actual bodily movements, and when the outer movements must be inhibited, it extends to incipient movements — muscular innervations or motor images. We wish to dance when we see others dance, but if we cannot dance with our whole bodies, we dance with parts of them, the sympathetic strains and tremors being felt in our legs and arms as we watch the dance. Hirn recalls the instance of the dancers brought into court for causing a disturbance, who, when asked to give an exhibition of the suspected performance, compelled both judge and jury to yield to the temptation, the sitting being dissolved in a wild dance carnival. Much of the pleasure in the enjoyment of art forms is now thought to be due to faint, incipient, and possibly subconscious movements, perhaps of the eye, perhaps of the muscles of the limbs or trunk. I shall refer again below to this "internal imitation." The artist, therefore, gains an actual sympathetic response from his fellows, his own emotion being enhanced by this social diffusion.

The art impulse is thus a kind of extension or enlargement of one's personality. We love to extend our personalities by means of a cane, or high-heeled shoes, or a tall hat, or by furs and feathers; but the kind of enlargement on the part of the artist that we are studying here is different. It is a social enlargement, the instinctive need to have others think and feel with us; and the artist's audience is not limited to his circle of friends or to his fellow townsmen, but extends to all the world and to posterity.

Art and morals

This principle of *social resonance*, I think, may explain the old difficulty about the relation of æsthetics to ethics. Are there moral lessons in works of art? Does the artist aim to instruct or to edify? Is poetry written to teach a lesson? Is there any such thing as didactic poetry? Lucretius, for instance, is reckoned among the great poets of Rome. His *De Rerum Natura* seems to have been specially, if not deliberately, written

to set forth a materialistic philosophy and to free men's minds from fear.

I think we must answer that, while the relation between art and conduct is very close, true art cannot have any primary moral purpose; its purpose is to please, not to instruct. Goethe said that to require moral ends in art means its destruction, although any true art will have moral consequences. The artist is never a preacher nor a teacher — he is just a *sharer*. He has a divine thought, a profound emotion, and his only wish is to share it with you and me. The relation of teacher to pupil is a lesser one; the motive of the artist is higher. Hence it follows that art is a great moral influence; it is the expression of our spiritual ideals, and the power of the artist for good is without limit. Greek art, at its best, was distinctly moral. It carried a great lesson, but never in the form of a lesson. It brought harmony and temperance and courage and justice; but it did not teach them.

Art and social morale

Art is thus the great harmonizer, the pacifier, the reliever. It relieves social tension, and conduces to peace and good-will. Works of art are not objects of desire. We love to have others share in our æsthetic joy, so that the eternal strife over mine and thine, as it pertains to houses and lands and material goods, is abated in times of æsthetic enjoyment, and life is lifted to a higher plane. The soothing effect of music upon us as individuals is familiar, but it produces social harmonies as well as harmonies of soul.

Hence we can understand the social importance of art. It has been from the earliest times of primitive man a socializing agency, integrating the people, uniting them in the bonds of social sympathy. It has strengthened social morale to an unknown degree. Unfortunately, the socializing and moralizing influence of art has probably never been so slight as it is to-day, perhaps not because of lack of activity in artistic production, but rather because of the relative lack of interest in it as compared with other forms of human activity. The actual moral

life of the people is not touched by the influence of art as it has been at other periods.[1]

The play motive in the art impulse

By many writers, notably by the poet Schiller and the philosopher Herbert Spencer, the creative impulse of the artist has been likened to the play instinct of children, being free and spontaneous and having no direct life-serving end. We work because we must in order to gain something that we need — food, shelter, clothing; we play just because we wish to play. Our overflowing energy needs an outlet of some kind. So it is with art, which is the simple outgoing of our creative powers finding expression in activity beyond the requirements of our daily life. This is well illustrated in Dr. Edman's interesting description of the emergence of the fine arts:

In the sharp struggle of man with his environment, those instincts survived which were of practical use. The natural impulses with which a human being is at birth endowed, are chiefly those which enable him to cope successfully and efficiently with his environment. But even in primitive life, so exuberant and resilient is human energy that it is not exhausted by necessary labors. The plastic arts, for example, began in the practical business of pottery and weaving. The weaver and the potter who have acquired skill and who have a little more vitality than is required for turning out something that is merely useful, turn out something that is also beautiful. The decorations which are made upon primitive pottery exhibit the excess vitality and skill of the virtuoso. Similarly, religious ritual, which, as we have seen, arises in practical commerce with the gods, comes to be in itself cherished and beautiful. The chants which are prescribed invocations of divinity, become songs intrinsically interesting to singer and listener alike; the dance ceases to

[1] In this I have in mind the accepted list of fine arts. But there are certain forms of art, if we may so call them, that are widely cultivated now, which have both a moral and a social influence in the highest possible degree, such, for instance, as popular music, the modern dance, the moving pictures. Concerning the moral influence of these more or less degraded forms of art I cannot speak here; but the socializing power of them is certainly very great. The modern automobile has a degree of beauty as well as efficiency, and has a socializing influence of unknown power, a universal theme for conversation, and a means of social intercourse. At the risk of shocking the cultured reader, I might even refer to a certain artistic effect of the bright and attractive filling stations that have sprung up in every city, town, and village throughout the land, replacing many an unsightly edifice.

be merely a necessary religious form and becomes an occasion of beauty and delight. . . . Repeatedly we find in primitive life that activity is not exhausted in agriculture, hunting, and handicraft, or in a desperate commerce with divinity. Harvest becomes a festival, pottery becomes an opportunity for decoration, and prayer, for poetry. Even in primitive life men find the leisure to let their imaginations loiter over these intrinsically lovely episodes in their experience.[1]

The imagination supreme

Finally it is in the imaginative work of the artist that the creative power of the human mind attains its perfection. In a preceding chapter we have compared the creative agency which is at work in evolution to an artist "with inexhaustible resources of imagination." Whatever this agency is, its supreme achievement is the human mind — an achievement supreme because the mind itself is creative of still higher values, and this power is seen at its best in imaginative work in the fine arts, where even the beauties of nature are surpassed. In the study of ethical values we have seen how that marvelous power which we call *rational thought* has discovered higher and ever higher standards of conduct; but in all such creative work of thought, as also in scientific discovery and in mechanical invention, the imagination is an active factor. Sometimes we speak of it as insight or vision. Whatever we call it, imagination is supreme in the work of the artist, where it seems like inspiration.

I have spoken of the art impulse as if it belonged only to the artist. But both the art impulse and the creative power of thought and imagination are common to all minds, differing only in degree. Most of us have at some time tried our hands at poetry, or modeling in clay or artistic designing, drawing, or painting; while the creative imagination is manifest, even in day-dreaming or in telling stories or in the writing of fiction. When these powers common to all are most highly developed and accompanied by a high degree of technical skill, we have *genius;* then appears the great poet, painter, sculptor, architect, or musical composer.

[1] Irwin Edman, *Human Traits and Their Social Significance* (Houghton Mifflin Company), pp. 333, 334.

II. Theories of the Beautiful

Art from the observer's standpoint

We have tried to see just what art is from the standpoint of the artist, the creator of an object of beauty. We must now inquire what it is from the standpoint of the beholder. What sort of experience is æsthetic experience? The obvious answer is that it is the sort of experience which we have in the contemplation of beauty of any kind, in nature or in art. So the final question comes, What is beauty? — and it is this part of the æsthetic problem which has been so much discussed and which has led to so many different answers. We know what beauty is until we are asked. Then we do not know.

The older theories of beauty were metaphysical, in contrast with our modern theories, which are psychological. The metaphysical theories considered beauty as something real and objective — perhaps a kind of essence or entity, or at least some objective aspect or quality of things. The ancient Greeks hardly thought of explaining beauty as a certain kind of feeling existing only in the mind of the beholder.

Historical

Plato in certain of his Dialogues seems to hold a peculiarly metaphysical theory of beauty, as if it were a reality in itself, a kind of eternal and unchanging essence or "form," any individual beautiful object being said to participate in this essential beauty. When in other places he speaks of harmony, proportion, and symmetry as constituting beauty, he still thinks of them metaphysically as objective qualities of things.

> For he who would proceed aright in this matter should begin in youth to visit beautiful forms; and first, if he be guided by his instructor aright, to love one such form only — out of that he should create fair thoughts; and soon he will of himself perceive that the beauty of one form is akin to the beauty of another; and then if beauty of form in general is his pursuit, how foolish would he be not to recognize that the beauty in every form is one and the same! And when he perceives this he will abate his violent love of the one, which he will despise and deem a small thing, and will become a lover of all beautiful forms; in the next stage

he will consider that the beauty of the mind is more honourable than the beauty of the outward form. So that if a virtuous soul have but a little comeliness, he will be content to love and tend him, and will search out and bring to the birth thoughts which may improve the young, until he is compelled to contemplate and see the beauty of institutions and laws, and to understand that the beauty of them all is of one family, and that personal beauty is a trifle; and after laws and institutions he will go on to the sciences, that he may see their beauty, being not like a servant in love with the beauty of one youth or man or institution, himself a slave mean and narrow-minded, but drawing towards and contemplating the vast sea of beauty, he will create many fair and noble thoughts and notions in boundless love of wisdom; until on that shore he grows and waxes strong, and at last the vision is revealed to him of a single science, which is the science of beauty everywhere. . . .

He who has been instructed thus far in the things of love, and who has learned to see the beautiful in due order and succession, when he comes toward the end will suddenly perceive a nature of wondrous beauty (and this, Socrates, is the final cause of all our former toils) — a nature which in the first place is everlasting, not growing and decaying, or waxing and waning; . . . but beauty absolute, separate, simple, and everlasting, which without diminution and without increase, or any change, is imparted to the ever-growing and perishing beauties of all other things. He who, from these ascending under the influence of true love, begins to perceive that beauty, is not far from the end. And the true order of going, or being led by another, to the things of love, is to begin from the beauties of earth and mount upwards for the sake of that other beauty, using these as steps only, and from one going on to two, and from two to all fair forms, and from fair forms to fair practices, and from fair practices to fair notions, until from fair notions he arrives at the notion of absolute beauty, and at last knows what the essence of beauty is. "This, my dear Socrates," said the stranger of Mantineia, "is that life above all others which men should live, in the contemplation of beauty absolute, . . . the divine beauty, I mean, pure and clear and unalloyed, not clogged with the pollutions of mortality and all the colours and vanities of human life — thither looking, and holding converse with the true beauty simple and divine." Remember how in that communion only, beholding beauty with the eye of the mind, he will be enabled to bring forth, not images of beauty, but realities (for he has hold not of an image but of a reality), and bringing forth and nourishing true virtue to become the friend of God and be immortal, if mortal man may.[1]

A still more spiritual theory of beauty was held by Plotinus, the Neo-Platonist (205–70 A.D.), who thought that beauty is

[1] Plato, *The Symposium*. Trans. by Jowett (Oxford University Press).

the pure effulgence of the divine Reason. When the Absolute expresses itself or shines forth in its full pristine reality, it is beauty. The artist is the "seer," who can see the divine beauty.

Hegel's theory is an instance of a more modern metaphysical view. All nature is a manifestation of the Absolute Idea. Beauty is the Absolute Idea shining through some sensuous medium. It is a kind of *disclosure* of spirit. Art, religion, and philosophy are for Hegel the highest stages in the development of spirit.

> The art-products of the world register the insight of the human race into Beauty, and the nations of the world have left their profoundest intuitions and ideas thus embodied. Art gives to phenomenal appearances "a reality that is born of mind"; and through Art they become, not semblances, but higher realities. It is thus that Art breaks, as it were, through the shell, and gets out the kernel for us.[1]

Schopenhauer's Theory of Beauty, also metaphysical, is very striking. The Absolute Will, which is reality, objectifies itself directly in the Platonic Ideas, or, as we should say, in the idea, type, species, genus, and indirectly in individual things. Anything is beautiful in proportion as it realizes or approximates to the type. In moments of pure contemplation, when we put aside all desire and deny the "will-to-live," we are able to see this ideal beauty. The common man is two thirds will and desire, and one third intellect; the artist is two thirds intellect and one third will; and hence is able to see through the outer husk of things to the ideal beauty lying back of phenomena. It is the artist, therefore, rather than the scientist, who knows reality. The artist ceases to ask about the "why" and "when" and "where" of things, and regards only the "what." That art is the lowest which is most encumbered with matter. This is architecture. Then comes sculpture and painting and poetry, and finally music, the highest of the fine arts, in which there is an immediate objectification of the Absolute. The composer reveals the inner nature of the world, and expresses the deepest wisdom in a language which his reason does not understand.[2]

[1] William Knight, *The Philosophy of the Beautiful*, part 1, p. 71, discussing Hegel.

[2] Arthur Schopenhauer, *The World as Will and Idea*, vol. 1, p. 336.

Another type of metaphysical theory is that of Ruskin, who believed that beauty in objects is found in certain qualities, such as unity, repose, symmetry, purity, and moderation, which typify divine attributes.

A recent subjectivistic metaphysical theory is that of the Italian philosopher, Benedetto Croce, who says that beauty is wholly mental, not belonging to physical objects. Æsthetic creation is the mind's most primitive and elemental form of activity. Croce calls it "expression"; but by this he does not mean the translation of a mental concept into some outer physical form. Æsthetic activity is a spiritual act, by which we convert mere impressions into intuitions. It is pure intuition.[1]

An entirely new direction was given to æsthetic inquiry by Kant, whose penetrating mind seemed to get at the heart of so many philosophical problems. Kant represents the beginning of the modern scientific and psychological study of æsthetic theory. In his third great critique, *The Critique of Judgment*, Kant says that the mind has a third faculty beyond that of the reason and the will, namely, that of feeling. The peculiar characteristic of æsthetic feeling or æsthetic pleasure is that it is *disinterested.* This marks it off from all other pleasures, which have an element of desire, involving personal or vital interests. Sugar, for instance, is not beautiful; it is agreeable. We have to possess it in order to enjoy it. Likewise a moral act is not beautiful; it is *good.* We approve of it and therefore have an interest in it. The beautiful, on the other hand, is always the object of disinterested satisfaction, separate from all desire. Beauty, however, although it is mental, is objective, since it is always the object of a judgment, in which we say, "This thing is beautiful," thus regarding beauty as a quality of objects, not a merely subjective taste.

The play theory of art

We have seen above, in studying the art impulse, how the creative activity of the artist has been likened to play. But the

[1] See Benedetto Croce, *Æsthetic.* Trans. by Douglas Ainslie. See H. Wildon Carr, *The Philosophy of Benedetto Croce,* chaps. III and IX.

play theory applies equally well to the beholder, and has proved to be a valuable help in understanding æsthetic pleasure. A suggestion made by Kant and followed up by the poet Schiller was later developed by Herbert Spencer [1] into the so-called *Spieltrieb*, or play-impulse theory. The word *play* may be applied to all those human activities which are free and spontaneous and pursued for their own sake alone. The interest in them is self-developing and they are not continued under any internal or external compulsion. The word *work* on the other hand, includes all those activities in which by means of sustained voluntary attention one holds one's self down to a given task for the sake of some end to be attained other than the activity itself. Work involves mental stress, strain, effort, tension, and concentration. Play, being the spontaneous expression of vitality itself, involves none of these, but is pleasurable in a high degree. Now, when this playlike activity involves the two higher senses, sight and hearing, and our higher mental powers and even our emotions, says Spencer, the conditions are fulfilled for the acquirement of æsthetic pleasure, which arises in the use of overflowing and surplus energy. "The æsthetic excitement is one arising when there is an exercise of certain faculties for its own sake apart from ulterior benefits."

In the contemplation of beauty, therefore, in its many forms, the eye and the ear and the mind are at play, and the accompanying pleasure is æsthetic. To take a single example, the perception of unity in variety is one of the most constant of mental functions, daily exercised in real life. When, now, this function is performed for the mere love of it with no serious end, the affective tone accompanying it is of the æsthetic kind. Thus, unity in variety is found in every work of art, be it a musical composition, painting, statue, or poetic masterpiece. We all love to see unity in variety, particularly to discover it. It satisfies and rests us, bringing to the mind what some one has called a kind of "domestic peace." In a musical composition a peculiar pleasure follows the discovery of a recurrent theme, lending a unity to what first seemed a mere diversity.

[1] *Principles of Psychology*, vol. II, part IX, chap. IX.

It has even been suggested that the pleasure which we find in elementary colors and tones and in tone and color harmonies may be likewise explained by the play theory. We greatly enjoy bright colors, such as red, orange, and yellow, in the sunset, rainbow, cultivated flowers, and autumn leaves, as well as in painting, decoration, and dress. The eye delights to use its sensory powers, merely for the sake of using them, and, as Grant Allen has suggested, surrounded as we are with grays and greens and blues, from street and lawn and sky, the eye revels in the enjoyment of the brighter colors when opportunity offers. The play theory of æsthetic pleasure is again illustrated in the dance, when harmonious and balanced movements provide the needed exercise to the overnourished and underworked muscles and motor centers of the body, while the "realized expectation" of the rhythm and the music add to the æsthetic joy.

The play theory of art has withstood adverse criticism fairly well since the time of Schiller and Spencer. We now know that play is not so much the overflow of surplus and unexpended energy as it is that outflowing of energy which is the expression of life itself. But this revision of Spencer's theory strengthens rather than weakens its force as applied to art production and æsthetic pleasure. Art is not a kind of child's play or pastime for idle moments, any more than play is a kind of activity *left over* after one's work is done.

Our modern industrial society has given us an exaggerated notion of the relative importance of work in life as a whole, so much so that certain social reformers have proposed the absurd theory that only industrial workers should be entitled to citizenship. The child does not play because "surplus" energy needs to be expended; he plays because he is a child and play is his spontaneous activity.[1] So the natural life of a man is not work in the sense of drudgery, but some kind of spontaneous creative activity in which, to be sure, he produces something. He may produce something useful, in which case we call his activity work, or he may produce something beautiful, when we call it art. The

[1] See the author's *Psychology of Relaxation* (Houghton Mifflin Company), chap. II, "The Psychology of Play."

latter is equally with work a part of real life, but in freedom and spontaneity it resembles play.

Empathy

The word *empathy* has been used to denote the sympathetic motor attitudes which the observer assumes in the presence of objects of beauty. This word was suggested by Titchener for the German word *Einfühlung*, used by Theodor Lipps, who writing at the beginning of the century first gave currency to the *Einfühlung* theory. A clear account of this theory may be found in Langfeld's book, *The Æsthetic Attitude*. He says:

> When we listen to a song, we have a tendency to move in time to the rhythm, and to repeat the notes with accompanying tension in the throat. In silent reading, the tendency to movement often goes over into actual movement of the lips or muscles of the larynx. The act of unity itself, fundamental to experience, is conceived in motor terms as a bringing of things together. It will rightly be objected that in many instances of perception there is no consciousness of such movement, not even of the faintest tendency toward such imitation of facial expression as that just described. The answer is that these motor sets may be, and in fact most frequently are, subconscious. The object observed, whether through the eye, ear, or another of the senses, arouses the memory of former movements, which are so revived that they form a nervous pattern; that is, the nerve paths going to the necessary muscle groups are opened, and those to opposed muscle groups are closed, and this pattern, which is ready on additional stimulation to produce actual movement, is sufficient to give us our perception of space, weight, form, smoothness, delicacy, and many of our other experiences. Accordingly one must for the most part explain this tendency to movement in physiological rather than psychological terms.[1]

Almost any one may become conscious of these motor attitudes by thinking vividly of a man rowing a boat, or dancers gliding about a room, or an automobile skidding around a corner. As you think of these movements, you can feel your own tendencies to move in your arms, trunk, or legs. But now these same motor attitudes are assumed, not only in mental imagery, but in perception, and in the perception, not only of moving objects

[1] Herbert Sidney Langfeld, *The Æsthetic Attitude* (Harcourt, Brace and Company), pp. 110, 111.

like dancers, but of buildings, statues, and paintings, and even of music. In æsthetic contemplation we are wholly unconscious of these movements, so that they become for us, not subjective phenomena at all, but qualities of the beautiful object. We cannot say that they are "projected" into the object; they are simply felt to be there; they belong to the object, and at once glorify it with all the rich meaning of our own former experiences. The thing becomes beautiful because it is clothed with a meaning drawn from our own active life; the object is vitalized. For instance, a Doric column of a Greek temple gets its meaning and its beauty partly from the unconscious motor set of our own organism as we have the tendency firmly to brace our feet as if to support a great weight. The pleasure in the experience seems to consist in the successful balance of forces and is interpreted as the quality of beauty in the object.

It would seem that the Theory of Empathy is a valuable contribution to our understanding of the philosophy of art. It seems clear that in the contemplation of a work of art, these motor tendencies are, indeed, present, and that they add to our understanding and appreciation of the object of beauty. They give it a strange life and vitality. But Empathy alone would seem to furnish a philosophy of appreciation rather than a philosophy of æsthetic pleasure. The source of pleasure in the empathetic experience is not quite apparent.

There is, however, one aspect of the Theory of Empathy which is important. We remember that in speaking of the art impulse we found that the primary motive of the artist is to widen and intensify his experience by sharing it with all mankind. He desires a social response to his own emotion or great thought. Certainly this is attained in the highest degree if the observer goes through with him empathetically his very motions as he worked upon his art production. Sympathy could go no further than this. The Theory of Empathy may thus in part explain that peculiar and essential social solidarity which it is the function of all art to promote.

The element of repose and unity in harmonious functioning has been emphasized by Ethel D. Puffer in her admirable book,

The Psychology of Beauty, "The beautiful object possesses those qualities which bring the personality into a state of unity and self-completeness." She says:

A thoroughgoing analysis of the nature of the æsthetic experience in its simplest and most sensuous form has given us a principle — the principle of unity in harmonious functioning — which has enabled us to follow the track of beauty into the more complex realms of ideas and of moral attitudes, and to discover that there also the law of internal relation and of fitness for imitative response holds for all embodiments of beauty. That harmonious, imitative response, the psychophysical state known on its feeling side as æsthetic pleasure, we have seen to be, first, a kind of physiological equilibrium, a "coexistence of opposing impulses which heightens the sense of being while it prevents action," like the impulses to movement corresponding to geometrical symmetry; secondly, a psychological equilibrium, in which the flow of ideas and impulses is a circle rounding upon itself, all associations, emotions, expectations indissolubly linked with the central thought and leading back only to it, and proceeding in an irrevocable order, which is yet adapted to the possibilities of human experience; and thirdly, a quietude of the will in the acceptance of the given moral attitude for the whole scheme of life. Thus is given, in the fusion of these three orders of mental life, the perfect movement of unity and self-completeness.[1]

III. The Æsthetic Experience

Psychological aspects

While, perhaps, we cannot yet say that a science of the beautiful has replaced the older "theories," I think we may be greatly encouraged by the progress that has been made in unraveling the skein of puzzles which formerly comprised the "problem" of beauty. *Beauty* is a name that we give to certain qualities of objects by virtue of which they give rise in us to certain peculiar pleasures which we call *æsthetic*. Such pleasures are disinterested, universal, and permanently pleasurable, even in revival in memory.[2] In speaking of æsthetic pleasures as universal, we mean nothing more than that they are objectified, thought of not at all as agreeable feelings of our own, but as qual-

[1] Ethel D. Puffer, *The Psychology of Beauty* (Houghton Mifflin Company), p. 285, 286.

[2] Compare Marshall's *Æsthetic Principles*, chaps. I and II.

ities of objects which would give pleasure to all. In æsthetic contemplation the self is forgotten. There is a kind of absorption in the beautiful object, a feeling of complete unity, freedom, and completeness.[1]

Under what conditions, then, do those pleasures which are permanent, universal, and disinterested arise in the human mind. Pleasure, as we remember, is the affective tone which accompanies mental and physiological processes when they are normal and healthy, when life is at full tide, when all goes well, and the vital strivings of the individual are being realized. When we were studying the mind in a former chapter, we discovered that the elementary things in our soul life are profound impulses or desires, *conations*, as we call them — perhaps the will-to-live. In his striving after life, full and free, the individual finds the environment sometimes friendly, sometimes hostile. To its friendly contacts nature has added something which we call *pleasure* — a new and wonderful value.

It is evident, then, that the conditions under which those peculiar, permanent, universal, and disinterested pleasures, which we call *æsthetic*, arise, are those in which there is a complete harmony between the individual and his environment. The situation will then be one of perfect *adjustment* of the individual to his surroundings. There will be a feeling of unity and repose, and this will come only after all material wants have been satisfied, in moments of pure spontaneity, when some part of the personality is at play and its pleasures are wholly disinterested.

Thus we see that beauty is not anything belonging to objects in themselves apart from the perceiving subject; neither is it anything which belongs alone to the subject; it depends upon the relation of the object perceived to the perceiving organism, and the relation is of the kind which we may characterize as a harmony and adjustment brought about by the fact that there is something in the object which calls into play the harmonious

[1] See the short, clear account in the article entitled "The True, the Good, and the Beautiful from a Pragmatic Standpoint," by Montague, in the *Jour. of Phil., Psych., and Sci. Meth.*, vol. VI, p. 233.

and restful functioning of mind and body under circumstances free from selfish or personally interested motives. As Kallen says:

> The object, when apprehended, awakens the active functioning of the whole organism directly and harmoniously with itself, cuts it off from the surrounding world, shuts that world out for the time being, and forms a complete, harmonious, and self-sufficient system, peculiar and unique in the fact that there is no passing from this deed into further adaptation with the object. Struggle and aliency are at end, and whatever activity now goes on feels self-conserving, spontaneous, free. The need of readjustment has disappeared, and with it the feeling of strain, obstruction, and resistance, which is its sign. There is nothing but the object, and that is possessed completely, satisfying, and as if forever. Art, in a word, supplies an environment from which strife, foreignness, obstruction, and death are eliminated. It actualizes unity, spirituality, and eternity in the environment; it frees and enhances the life of the self. To the environment which art successfully creates, the mind finds itself completely and harmoniously adapted by the initial act of perception. In the world of art, value and existence are one.[1]

Let us see whether these principles could be applied concretely to the work of the artist. We recall that the aim of the artist is to attract by pleasing. In its very simplest form perhaps it is nothing more than an impulse to expend in the regular practice of some mechanic art, perhaps in the making of a basket or an earthen pot or a bow and arrow, a little of the artisan's abounding energy in making it not only useful, but *attractive*. He will *embellish* his product, and becomes thereby the artist.

Now, the artist perhaps knows little of psychology or physiology, and possibly does not reason about the sources of human pleasure; he proceeds quite instinctively and empirically. But *it is as if* he had a keen insight into the motor mechanism of the human subject, the structure and functioning of the organs of sense and the inner working of the mind, and thus knew how to fashion his work of art in such a way as to bring about in the beholder that peculiar absorption, detachment, and "distance,"

[1] Horace M. Kallen. "Value and Existence in Philosophy, Art, and Religion," in *Creative Intelligence* (Henry Holt and Company), p. 439.

that state of unity in repose, that self-conserving, spontaneous, and harmonious functioning of the whole organism which constitutes æsthetic experience. It is as if he knew how to play upon the mind and motor mechanism of the human subject in such a way as to cause precisely those permanent, disinterested, and universal pleasures which we call *æsthetic*.

The artist seems to do all this intuitively. His knowledge, if not instinctive, is at any rate empirical. He has discovered first that he may gain the end in view by the use of *bright colors* or *pure colors* and *color harmonies*, by *pure tones* and *tone harmonies*, and by *cadence*, *rhyme*, and *rhythm*. With the results of his discovery of rhythm, he would be particularly well pleased, for he would find that in the dance and in music and poetry it would exercise a fascination that no one could resist.

As he proceeded to more elaborate works of art, he would find that *unity in variety* would be a never-failing source of pleasure, as well as *symmetry* and *proportion*. He would discover that there are certain forms and certain lines and curves that are universally pleasing. He would find that in painting and sculpture the representation of familiar objects in nature, particularly animal bodies and the human form and face, yields the kind of pleasure that he seeks. In poetry he would learn how his hearers are charmed by the narration in metric form of scenes and events from their own lives — their lives of war and love and even of industry, with all the joyous parts extolled and all the hardships forgotten.

Finally he would see that, in depicting scenes of natural beauty and animal and human forms and human faces, the greatest pleasure arises, not from a slavish imitation of nature, but by a kind of "representation," in which the imagination of the beholder has a part to play, or even by a kind of idealization, in which the essential and significant elements are intensified, or perhaps delicately exaggerated. Thus the genius of the artist puts upon canvas a sunset more exquisite than any actual sunset, or paints a Madonna more beautiful than any actual face of woman. Now, the psychologist or the philosopher in reflecting upon all this is able to explain to some extent the causes of

the peculiar pleasure awakened in each of these several ways. Some of these explanations have been indicated in this chapter; some are still to seek.

Resumé

Summarizing in the briefest way what we have learned, we may say that art is a social phenomenon springing from the creative impulse in the mind of the artist, an impulse to give expression in creative form to some profound emotion or great thought, which he wishes to share with other members of his group or with all mankind. And instinctively he grasps the means of making his fellow men his sharers. He appeals directly to their love of color, to their love of harmony, to their love of unity and proportion. He appeals to the play impulse, to the joy of harmonious functioning of every organ and every faculty. He appeals to the deep need which every man feels for moments of repose, of rest from his eternal striving, the need for intervals of perfect adjustment in a life of restless striving for an adjustment which striving never brings. The artist comes to the beholder with a gift — the gift of repose and harmony and a feeling of unity and completeness. Such an experience as this is *æsthetic experience*. It gives *æsthetic pleasure*, which we should better call *æsthetic joy*. And to the object of contemplation the beholder ascribes a quality which he calls *beauty*. Therefore works of art, which call forth these sentiments, are beautiful. Objects of nature may also arouse these æsthetic feelings. Shall we say in this case that Nature is the artist, impelled likewise by an art impulse, aspiring to self-completion in both beauty and its appreciation? Is Nature, too, trying to express herself, to express ever some great thought or feeling, aiming to bring into being works of beauty and also enjoyment of them? This latter question we cannot answer, but in æsthetic contemplation we know that a peculiar unity and sympathy arise between Nature and man.

This is an imperfect summary of our imperfect knowledge of the æsthetic experience. But it may be useful as an approach to further study of this engaging theme. Particularly in music

has it proved difficult to formulate the psychological grounds of its strange emotional effects.[1]

The mystery of music

Even if the æsthetics of harmony, melody, and rhythm could be understood, there is still a deep unexplained residue of æsthetic pleasure in music. One subject which awaits experimental inquiry is the question to what extent the "mystical" overtones and their varied combinations may awaken forgotten memories, racial or individual, of emotions engendered in social intercourse through *the human voice*, dimly suggesting distant scenes of love or war or social enterprise.

Psychological explanations of the æsthetics of music failing, many metaphysical ones have been suggested. Some have thought that through the medium of the ear we are in more immediate communication with the very heart of reality than through the eye, which limits us to surface phenomena only. Music, said Schopenhauer, is entirely independent of the phenomenal world, ignores it altogether, and could in a sense exist if there were no world at all. Thus music is a universal language, intuitively understood, and loses some of its inner meaning when accompanied by words. The world is "embodied music":

> The unutterable depth of all music by virtue of which it floats through our consciousness as the vision of a paradise firmly believed in yet ever distant from us, and by which also it is so fully understood and yet so inexplicable, rests on the fact that it restores to us all the emotions of our inmost nature, but entirely without reality and far removed from their pain.[2]

Beauty as ideal value

There is still another puzzling question which should be mentioned. Since we speak now not so much of beauty as of æsthetic pleasure, the whole treatment seems too psychological, too sub-

[1] The almost intoxicating effects of rhythm have been partly explained. See the instructive article by Carl E. Seashore entitled "The Sense of Rhythm as a Musical Talent," in *The Musical Quarterly*, vol. IV, no. 4, pp. 507–15.

[2] Schopenhauer, *The World as Will and Idea*. Trans. by R. B. Haldane and J. Kemp, vol. I, p. 341.

jective. Is there, then, no beauty in itself? Was Plato wholly wrong? Were not the wild flowers, which blossomed on the prairies ages before the advent of man, beautiful before the eye came to see and appreciate them? Did the rainbow just begin to acquire beauty when the first man saw it?

Again, if beauty is subjective, depending upon the awakening of certain peculiar kinds of pleasure, then it would appear that any object will be beautiful in proportion as it awakens pleasure of this kind. But this seems to be inconsistent with the fact that good taste in art is the result of education and a cultured environment. If a person does not enjoy good music (that is, music which appears to us to be "good"), or if he cannot appreciate the work of the great masters (that is, masters who are commonly reputed to be great), we say that he has poor taste, assuming that there is some *norm* or *standard* of beauty which this person cannot appreciate. Chandler in a recent article [1] attempts to meet this difficulty by saying that the standard of beauty is found in the judgment of those of richly developed experience; but this seems to imply some goal toward which the development is tending.

Perhaps this difficulty may be met if we consider that beauty is after all *a value*, let us say an ultimate value — or even, if you choose, an "eternal value" to be realized through a process of evolution. The notion of beauty arises only in a total situation representing a relation between certain qualities of objects, such as colors, tones, symmetry, unity, proportion, on the one hand, and on the other, a highly developed and exceedingly complex human organism with a mind in which has developed the capacity of entering into peculiar relations with those qualities and extracting therefrom a peculiar joy, which we call *æsthetic pleasure*. Beauty, then, would be a new *value* attained through creative evolution; an end, if you please, for which all the separate factors in the total situation are indispensable.

If we accept this view that beauty is a value, and, together with moral good, perhaps the highest value that we know, there

[1] Albert R. Chandler, "The Nature of Esthetic Objectivity," *Jour. of Phil., Psych., and Sci. Meth.*, vol. XVII, p. 632.

would be, I think, three ways of interpreting this highly idealistic theory. We might consider these moral and æsthetic values as "novelties," but novelties of supreme worth, which in the age-long progress of evolution have finally *appeared.* They were not foreseen by any mind, human or divine, nor planned, nor desired, nor willed. But they are here, and they are good; and it is not impossible that other still higher values may be forthcoming in the future. This method of interpretation would be, I suppose, dear to the heart of the Pragmatist, and it is a view that must certainly make a deep appeal.

A second view would regard moral and æsthetic values as ends toward which Nature has been consciously striving. They have been willed, foreseen, *envisaged* by some cosmic mind or will of God. They are "ideas," as well as ideals. Such a view would be welcomed by all schools of personal or theistic Idealism, and is again a view appealing with great power to many of us.

A third theory would regard these moral and æsthetic values as the product of a creative evolution which is in the nature of a process of *realization,* beauty being one of the values to be realized. Beauty, then, like justice, and others of the "eternal values," would be an end in itself, which has actually been a factor in determining the means of its realization, the various steps in the evolutionary program being *indispensable* to this end, and a certain *control* over the whole world movement being exercised by the values themselves. We should then have to think of the world, not as a series of events in a time order in which antecedents alone were causes — a convenient notation for our work in the physical sciences — but as a process of realization, in which events in the time series would be regarded as indispensable conditions for the realization of the ideal values. In this manner of thinking, God as the totality of values would again be the creator of the world, but rather as an alluring than as an efficient cause. Such a view would be both idealistic and teleological; but the latter term would be used in a sense somewhat different from its older meaning. In Santayana's words, "the whole of natural life, then, is an aspiration after

the realization and vision of Ideas, and all action is for the sake of contemplation."

In connection with this chapter read:

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